CENTRAL AREA TRANSPORTATION STUDY UPDATE

DRAFT

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INTRODUCTION

Background

The original *Central Area Transportation Study* (CATS) was completed in 1987. That document served as a technical reference to the *Central Eugene Parking and Traffic Circulation Plan* which was adopted by the Eugene City Council and the Lane Regional Air Pollution Authority. From its inception, the CATS document was intended as a tool to help maintain and improve the transportation and parking systems and preserve air quality within the CATS boundaries.

In the early 1990s, the City Council initiated broad discussions related to the role of alternative modes of transportation in the City's transportation system. In 1991 and 1992, one of the City Council's five goals was to implement new strategies for alternative modes of transportation, with a focus on increasing the number of bus riders and supporting the use of bicycles. In 1991, the Council instructed staff to update the original CATS and to expand the scope of that document by addressing: (1) the feasibility of a downtown shuttle system; (2) improved access to the CATS area for bicycles; (3) changes in the parking codes, rates and supplies; (4) improvements in transit routes and service; and (5) implementation of employer-based Trip Reduction Ordinances. Following an extensive citizen participation process to receive input on and help shape discussion of these issues, the updated CATS was adopted as the Central Area Parking and Traffic Circulation Plan by the City Council in April 1993.

Need for 2003 CATS Update

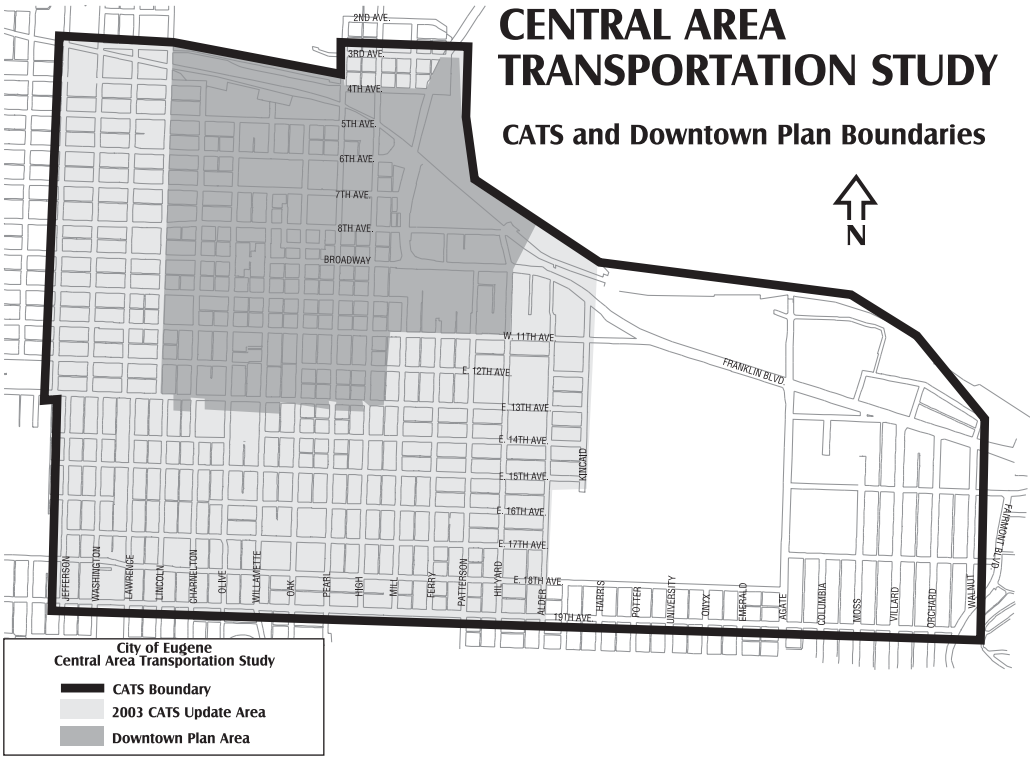
Since the last CATS update was adopted in 1993, all of the policies, and the vast majority of the suggested implementation strategies contained in that plan have been implemented. A new central transit station has been constructed downtown on a site adjacent to the new public library. A transit-based shuttle system linking downtown to other nearby activity centers has been created. Several new parking structures have been built to replace surface parking lots and to satisfy increased demand for parking due to new development. On-street parking has been added throughout the CATS area and the Vehicle Parking Exempt Zone that promotes intensive development has been expanded. The old Downtown Mall has been completely replaced with newly re-opened streets that provide improved access to downtown businesses. New land use and development codes have been adopted that promote more intensive transit and pedestrian-oriented mixed-use development. A system of bikeways providing improved access to bicyclists has been created throughout the CATS area. Some streets that provided for one-way traffic have been converted to two-way operation. The CATS document now needs to be updated to reflect current needs and priorities.

Since the *Eugene Downtown Plan* was adopted in 1984, several other planning efforts have taken place within the downtown area. Each of those efforts has provided new ideas for revitalizing downtown. Those efforts include the South Bank Study, the North End Scoping Study, the Courthouse District Concept Plan and the Downtown Visioning process. None of the documents that resulted from those efforts was formally adopted by the City Council, although the Council has directed that the current Downtown Plan update be based on the issues and ideas raised in

earlier processes. The intention of the current CATS update is to provide analysis and recommendations on the same set of issues that are being considered for the current Downtown Plan update. In order to address transportation continuity issues, the CATS boundary is somewhat larger than the Downtown Plan boundary.

Study Area Description

The CATS boundary encompasses the central Eugene area, including downtown, the University of Oregon and Sacred Heart General Hospital sites. It also includes the Riverfront Research Park, portions of the Jefferson-Westside Neighborhood and Fairmount Neighborhoods, and the new Federal Courthouse site and EWEB-owned property to the north of that site.



Because the 2003 CATS update is focused on changes to the transportation system that result from the update to the *Eugene Downtown Plan*, this study concerns itself only with that portion of the CATS area that is west of the University of Oregon campus. It is anticipated that CATS will need to be updated again within a few years to address proposed amendments to the University of Oregon East Campus Plan; proposals for new *Breeze* shuttle or Bus Rapid Transit (BRT) routes; or nodal development planning for the proposed Walnut Street Station. *(See **Appendix A, Map 1** for CATS and Downtown Plan Boundaries).*

Relationship of CATS to Other Plans

CATS examines traffic circulation, parking, and alternative transportation modes in a comprehensive manner. Since transportation issues sometimes influence other City policies and goals, especially economic growth and development, CATS attempts to evaluate the impacts of its recommendations and to achieve a balance between competing community objectives.

Several adopted documents have outlined the relationship between land use, economic growth and the transportation system.

- The *Eugene-Springfield Metropolitan Area General Plan* (Metro Plan) is the official long-range plan for metropolitan Lane County and the cities of Eugene and Springfield. The Metro Plan establishes general planning policies and land use designations and serves as the basis for the coordinated development of programs concerning the use of and conservation of physical resources, furtherance of assets, and development or redevelopment of the metropolitan area. Among the Metro Plan policies that relate to CATS issues are those that encourage the growth of downtown Eugene as a high density employment center, support increased use of parking management strategies, support transportation strategies that enhance neighborhood livability, and promote the development of a multi-modal transportation system. The Metro Plan strongly promotes development of choices in mode of travel and development patterns that will reduce reliance on the automobile and enhance livability, economic opportunity, and the quality of life in the community.

- The *Eugene Downtown Plan* is a refinement of the Metro Plan and also links other plans, such as neighborhood refinement plans, that address areas adjacent to the downtown. The Downtown Plan establishes a framework to direct downtown's physical growth and development by creating goals, policies and implementation strategies regarding downtown as a commercial center, destination point, and neighborhood. The City Council has directed an update of the existing Downtown Plan. That update is occurring in conjunction with the CATS Update and, in fact, is a primary driver in the need to update the 1993 CATS document. Policies and implementation strategies in the draft 2003 CATS Update are consistent with the policy direction established in the draft Downtown Plan Update.

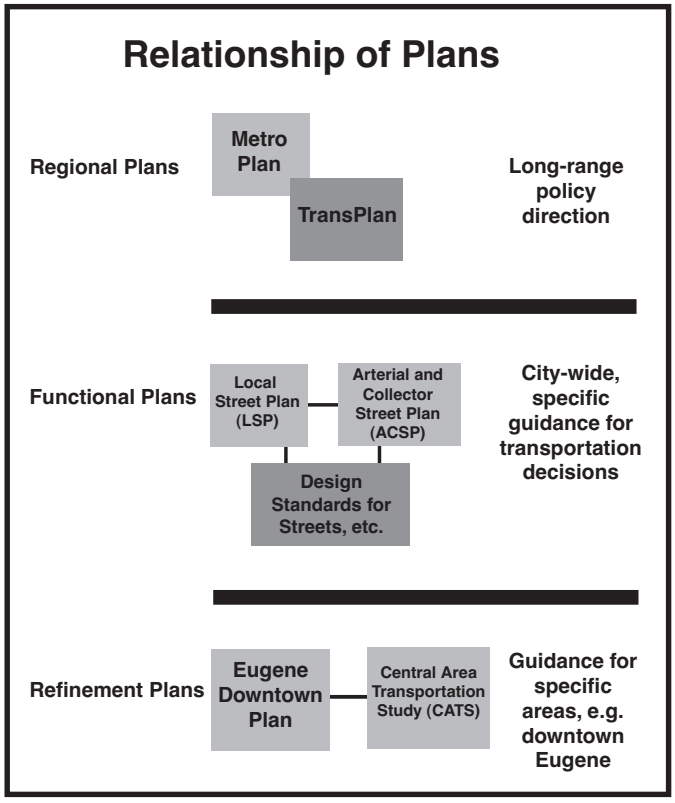
- The *Eugene-Springfield Metropolitan Area Transportation Plan* (TransPlan) is the metropolitan area's long-range transportation plan. TransPlan addresses the principle modes of transportation used within the metropolitan area including automobiles, buses, bicycles, and walking. It also contains projects and policies to guide development of the area's freeways, arterial and significant collector street systems. The policies in TransPlan are designed to support the adopted land use patterns and goals of the Metro Plan, to help reduce automobile demand, and to increase the use of alternative modes of transportation. An update to TransPlan was adopted in 2001. Analysis of the transportation system in the CATS study area is used in TransPlan for air quality conformity determination.

CATS is part of an ongoing process to improve Eugene's transportation system. The study is considered a refinement of TransPlan for the greater downtown and University areas.

- The *Eugene Arterial and Collector Street Plan* (ACSP) provides specific direction on transportation policies as they apply to Eugene's major streets. The ACSP resulted in the adoption of the Eugene Street Classification Map that classifies the major street system for the area within Eugene's urban growth boundary. Numerous streets within the CATS area are classified as arterial or collector streets. The ACSP was adopted in 1999.

- The *Eugene Local Street Plan* (LSP) addresses connectivity and design issues related to those streets that are classified as local streets. Many of the streets within the CATS boundary are classified as local streets.

- The *Design Standards for Eugene Streets, Sidewalks, Bikeways, and Accessways* document was adopted in conjunction with the ACSP and contains design standards for arterial, collector and local streets to direct the creation of a multi-modal street system in Eugene and to ensure the safe and efficient operation of each street type for all users. The document includes standards for all components and design elements that are typically incorporated in the transportation right-of-way such as sidewalks, planting strips, parking spaces, on-street bicycle lanes, and vehicle travel space (which may include left turn lanes and/or median islands). The document also addresses traffic calming and other pedestrian enhancement design techniques that are used with much greater frequency than they were a decade ago. The Design Standards document was adopted in November 1999.



Adoption Process

Following the public release of the draft CATS Update in the summer of 2003, the Eugene Planning Commission will hold a public hearing on the document and may require revisions to the draft as a result of the public hearing testimony. The Commission will forward the draft to the City Council who may also hold a public hearing and may also require revisions to the draft as a result of the public testimony. Upon review of the draft CATS, including any required revisions, the Council will adopt the policies contained in the document as City policy likely in the fall of 2003. The proposed implementation strategies contained in the document are recognized as potential means of addressing adopted policies but are not proposed to be adopted as City policy.

POLICY AND IMPLEMENTATION STRATEGY SUMMARY

STREET SYSTEM

Proposed Policy

1. **Promote the development of a transportation system within the downtown area that supports the goals of the Downtown Plan, enhances the livability of downtown, and provides for the safe and efficient movement of motor vehicles, pedestrians, bicycles, and transit vehicles.** ***(See Appendix A, Map 2 for Proposed Street System Improvements)***

Proposed Implementation Strategies

1.1 Develop plans to convert the following street segments from one-way to two-way operation:

- *a. Lawrence Street from 6th Avenue to 13th Avenue*
- *b. Lincoln Street from 5th Avenue to 11th Avenue*
- *c. Charnelton Street from 6th Avenue to Broadway and 11th Avenue to 13th Avenue*
- *d. 8th Avenue between Jefferson Street and Oak Street*
- *e. 10th Avenue from Olive Street to High Street*
- *f. Willamette Street from 13th Avenue to 20th Avenue*

1.2 Implement street system changes described in the Courthouse District Concept Plan:

- *a. 6th Avenue extended along the railroad tracks, with two one-way westbound lanes from Hilyard Street to 6th Avenue west of Mill Street;*
- *b. Pedestrian, bicycle and auto crossing of Mill Street at 8th Avenue;*
- *c. 8th Avenue as a civic street, with two lanes of traffic, on-street parking and wide sidewalks;*
- *d. A bicycle lane or paths and sidewalks incorporated into the overall design;*
- *e. Some reduction in traffic on Broadway, providing an opportunity to reuse part of that roadway for other purposes, such as wider sidewalks, planter strips or on-street parking;*
- *f. Extension of Ferry Street from 8th Avenue to the new alignment of 6thAvenue, to provide local access and circulation.*

1.3 Address adopted Entrance Beautification Study (1987) goals and policies in any construction or reconstruction proposals for Mill Street, or segments of East Broadway or Franklin Boulevard east of Mill Street.

1.4 Extend Oak Street to the north to connect 5th Avenue with Willamette Street at the Eugene Depot.

Proposed Policy

2. Maintain or improve the operation of the street system for pedestrians, bicycles, transit and automobiles. Balance the need for bicycle lanes on downtown streets with the need for on-street parking and transit facilities.

Proposed Implementation Strategies

2.1 Capitalize on other projects, such as signal reconstruction, for conversion to two-way operation, to perform other roadway enhancements to provide for better, safer utility for pedestrians, bicycles, and transit users.

2.2 Adopt an administrative rule to implement access management strategies throughout the city.

Proposed Policy

3. Use Transportation Systems Development Charges (SDC) to help compensate for the effect of growth on the need for alternative transportation systems.

PEDESTRIAN SYSTEM

Proposed Policy

4. Improve the pedestrian system in the downtown area to encourage walking as a primary means of transportation within downtown. ***(See Appendix A, Map 3 for Proposed Pedestrian System Improvements)***

Proposed Implementation Strategies

4.1 Construct new sidewalks in the following locations:
- *a. Franklin Boulevard. Construct new sidewalk segments on Franklin Boulevard to eliminate gaps on both sides of Franklin Boulevard east of Hilyard Street.*
- *b. Kincaid Street. Construct sidewalk and access ramp along Kincaid Street to connect to the south sidewalk of Franklin Boulevard.*

4.2 Connect Downtown to Skinner Butte. Develop a process to create a design proposal and funding mechanism for a pedestrian facility to connect Willamette Street to the Shelton-McMurphy-Johnson House and up the south side of Skinner Butte.

4.3 Evaluate dual-turn lane conflicts. Evaluate intersections with identified pedestrian/ vehicle conflicts, as identified on ***Map 3,*** *for opportunities to either eliminate dual-turn movements or otherwise improve pedestrian safety.*

4.4 Evaluate pedestrian areas with geometry and volume conflicts. Evaluate intersections and driveway crossings with identified pedestrian/vehicle conflicts related to geometry

*and traffic volumes, as identified on **Map 3**, for opportunities to improve pedestrian safety.*

4.5 Adopt an administrative rule to amend Design Standards and Guidelines for Eugene Streets, Sidewalks, Bikeways, and Accessways, to create a new design standard or guideline for the placement of signal and light poles, signal boxes, and street furniture.

4.6 Use design approaches found in Design Standards and Guidelines for Eugene Streets, Sidewalks, Bikeways, and Accessways, that further the creation of a multi-modal street network in this area.

Proposed Policy

5. Encourage and promote the creation of "great streets" within the downtown area that stimulate pedestrian activity while allowing for bicycles and slow-moving automobile traffic.

Proposed Implementation Strategies

5.1 Develop specific implementation proposals to convert the following streets to "Great Streets":
- *a. 8th Avenue between the Park Blocks and the Willamette River*
- *b. Broadway between Oak Street and Hilyard Street*
- *c. Willamette between 5th Avenue and 13th Avenue*
- *d. 5th Avenue between Willamette Street and High Street (with potential extension to the Willamette River).*

5.2 Provide that each of the "Great Street" implementation proposals address:
- *the design principles that will guide the improvement of the street;*
- *identification of existing problems with the physical structure of the street that needs to be corrected;*
- *a design proposal for improvements to travel lanes, sidewalks, turn lanes, on-street parking lanes, lighting, landscaping, crosswalks, intersections, and other design features of the public right-of-way;*
- *the design standards or guidelines for development of parcels abutting the street; and*
- *a financing proposal for constructing the public improvement.*

BICYCLE FACILITIES

Proposed Policy

6. Improve the safety and efficiency of existing bikeways in the downtown area. Improve bicycle circulation within the downtown area and improve access to existing and planned routes extending outside of the downtown area. *(See Appendix A, Map 4 for Proposed Bicycle Facility Improvements)*

Proposed Implementation Strategies

6.1 Reevaluate bicycle facilities throughout the CATS area as changes to downtown streets are implemented.

6.2 Apply design approaches found in Design Standards and Guidelines for Eugene Streets, Sidewalks, Bikeways and Accessways that encourage and support bicycle traffic on appropriate downtown streets.

6.3 Explore methods to add long-term bicycle parking downtown. Using the recommendations of the 1996 Bicycle Parking Committee, explore locations and funding sources for adding long-term bicycle parking for downtown employees.

6.4 Evaluate the effects and benefits of converting Pearl Street and High Street bicycle lanes to right-side lanes.

6.5 Initiate corrective measures to reduce conflicts and otherwise improve conditions for bicyclists in the following areas:

a. Willamette Street and Olive Street, between 8th Avenue and 10th Avenue.
b. 11th Avenue and Oak Street intersection.
c. 12th Avenue bikeway at Willamette Street and Oak Alley.
d. Pearl Street at 19th Avenue/Amazon Parkway.
e. High Street at 7th Avenue.
f. Oak Street, 8th Avenue to 10th.
g. 18th Avenue at Hilyard Street.

6.6 Install bicycle lanes on the following street segments:

a. Willamette Street, from 13th Avenue to 20th Avenue, once the full segment is changed from one-way to two-way traffic flow.
b. Lincoln Street, from 11th Avenue to 13th Avenue, when the existing bicycle lanes on 11th Avenue and on 13th Avenue are extended to the west.
c. Extend the existing bicycle lane on 10th Avenue between Oak Street and High Street in conjunction with the Phase I BRT construction project.

TRANSIT SYSTEM

Proposed Policy

7. Support a frequent transit-based shuttle service in the greater downtown area to link major employment and activity centers and to provide an attractive, energy-efficient, low or no cost, transportation alternative for those who live, work or shop within the greater downtown area. *(See Appendix A, Map 5 for Transit Improvements Discussion Map)*

Proposed Implementation Strategies

7.1 Maintain or enhance the frequency of the downtown shuttle service.

7.2 Evaluate the feasibility of adding a transit connection to the existing bicycle and pedestrian facility that connects 6th Avenue and 7th Avenue on Willamette Street.

7.3 Develop specific transit routing options for future Shuttle or BRT service to the future Federal Courthouse site and redevelopment areas adjacent to the site.

7.4 Evaluate the potential of High Street, Pearl Street, Washington Street, Jefferson Street and 10th Avenue (west of Willamette Street) to serve as future BRT routes as decisions are made regarding the conversion of one-way streets to two-way traffic flows.

VEHICLE PARKING

Proposed Policy

8. Support intensive development in the downtown area by balancing new parking supply with specific area demands and ensure an adequate supply of parking is available downtown to meet the needs of residents, workers and customers of downtown facilities.

Proposed Implementation Strategies

8.1 Reduce the inventory of surface lot parking by encouraging re-development of such sites through zoning and permit requirements.

8.2 Develop more on-street parking in high demand areas by converting parallel parking to diagonal parking where right-of-way and paving width allows diagonal parking to occur.

8.3 Develop parking facility siting recommendations and options. Utilize the information developed from the Rich parking analysis (May 2002) along with demonstrated development plans, to plan for the next public, structured parking facility. Regularly update the parking supply and demand database.

8.4 Minimize the reduction of on-street parking spaces for street re-configuration or alternate uses.

8.5 Encourage the development and use of financing tools, such as Urban Renewal Funds and private/public partnerships, for the construction of new parking structures downtown when the parking demand is demonstrated.

Proposed Policy

9. Make parking downtown convenient, affordable, safe and easy to use.

Proposed Implementation Strategies

9.1 Implement a marketing/public information campaign that would make parking downtown more user friendly. Actions may include: upgraded signage to direct patrons to city-owned parking, new printing of the "Easy Park" brochure, update of other information sources related to parking and through promotion of the meter "cash key" and other incentives for downtown parking.

9.2 Encourage utilization of structured parking downtown. An example includes allowing free parking on Saturdays, in garages, to stimulate use and customer familiarization with the garages. Monitor and implement security measures within the City's parking facilities, to enhance the sense of safety.

9.3 Review parking rates annually to ensure they are covering operational expenses and are within market rates.

TRANSPORTATION DEMAND MANAGEMENT PROGRAM

Proposed Policy

10. Promote walking, bicycling, carpooling, and riding the bus through employer-based programs.

Proposed Implementation Strategies

10.1 Continue to support the regional Commuter Solutions program.

10.2 Continue city sponsored promotions to encourage transportation options to driving alone.

10.3 Explore the formation of a Transportation Management Association (TMA) for downtown businesses.

UNIVERSITY OF OREGON CAMPUS AREA

Proposed Policy

11. Support the transportation policies contained in the 1991 University of Oregon Long Range Campus Development Plan.

TRANSPORTATION IN DOWNTOWN EUGENE: A CONTINUING EVOLUTION

Transportation has been a key element in the development of Eugene since the City was incorporated in 1862. The Eugene Original Plat, and numerous additions that make up the downtown core, created a grid pattern of blocks and streets with north-south and east- west orientation. Willamette Street created the main north-south axis of downtown and separates east addresses from west addresses to this day. Several major natural features such as the Willamette River and Skinner Butte interrupted the layout along the north. Later, major pieces of transportation infrastructure were built to link downtown Eugene and the outside world. Features such as the Southern Pacific Railroad, Ferry Street Bridge, and Franklin Boulevard introduced a "radial" element overlaid on the grid street pattern.

In the 1940s and '50s downtown Eugene followed the trend of many other communities as one-way streets replaced most of the earlier two-way street system. The one-way traffic moved more efficiently, especially for getting the traffic through or across downtown on its way to south and west Eugene, and expectations for a growing downtown commercial area led to extending the one-way pattern all the way west to Jefferson Street and south to 13th Avenue. Creation of the pedestrian mall in the early 1970s was accompanied by widening the one-way streets around the perimeter of the mall, again to ensure easy traffic flow and access to parking lots and garages on the perimeter.

Over a period of more than ten years, the downtown pedestrian mall was gradually replaced by a series of one-to-two-block street openings culminating with a reopened Broadway in 2002. During this same period, the CATS studies in 1987 and 1993 led to gradual changes in the downtown street system, such as:

- conversion of some street sections from one-way traffic back to two-way operation
- reintroducing on-street parking on most downtown streets, which had been largely eliminated during the 1970s with completion of the mall
- adding on-street bicycle lanes on the busiest streets, for travel within downtown and connections to major bike routes leading to and from downtown
- using traffic-calming design techniques to provide for "mixed" auto and bicycle traffic in shared travel lanes on certain streets, such as Broadway
- improvements for pedestrians at various locations, such as "curb extensions" at key intersections to enhance safety and visibility

This CATS update continues the evolution of transportation within the greater downtown Eugene area. Based on direction from the Downtown Vision and other recent planning and policy initiatives, this report carries forward and updates where appropriate the existing set of Policies from the previous CATS document. The 2003 CATS update also proposes a number of projects and implementation strategies aimed at further improving circulation and access in downtown Eugene, for all modes of travel.

STREET SYSTEM

Downtown Eugene needs to be accessible to everyone. People need to be able to get to the downtown area by different transportation mode options. Once they get there, they need to be able to park, if arriving in a car or on a bicycle. Regardless of the mode they use to travel to downtown, everyone then becomes a pedestrian for at least part of their trip to a particular destination within downtown.

Whatever method of travel people choose to get to downtown, they are dependent on a well-designed and well-operating system of streets to do so. Due to the limited space available downtown for specialized transportation routes that don't rely on streets (such as off-street bicycle paths), virtually all travel within downtown and the larger CATS area occurs on the street system. In addition, much of the travel occurring on this system is by people and vehicles going somewhere other than downtown. Since it is unlikely a system of roadways or transit routes will ever be built that would completely "bypass" downtown Eugene, a certain amount of through travel has to be accommodated on these same streets. Creative street design and other techniques achieve the best possible balance between accommodating mixed traffic and having downtown be a place people go *to*, not just *through*.

This section discusses opportunities for a number of changes and improvements to the CATS street system, with the goal of improving circulation and access for everyone and every mode of travel.

Proposed Policy

1. **Promote the development of a transportation system within the downtown area that supports the goals of the Downtown Plan, enhances the livability of downtown, and provides for the safe and efficient movement of motor vehicles, pedestrians, bicycles, and transit vehicles.**

Proposed Implementation Strategies ***(See Appendix A, Map 2 for Proposed Street System Improvements)***

1.1 Develop plans to convert the following street segments from one-way to two-way operation:

a. Lawrence Street from 6th Avenue to 13th Avenue
b. Lincoln Street from 5th Avenue to 11th Avenue
c. Charnelton Street from 5th Avenue to Broadway and 11th Avenue to 13th Avenue
d. 8th Avenue between Jefferson Street and Oak Street
e. 10th Avenue from Olive Street to High Street
f. Willamette Street from 13th Avenue to 20th Avenue

Discussion: During the 1940s and 1950s many communities across the country created one way street networks, particularly in downtown core areas, and Eugene was no exception. The 6th/7th Avenue couplet of Highway 99 between Garfield Street and Pearl/High streets are illustrated on a City map dated 1946, and many one-way streets were designated such during the following decade. While one-way streets simplify traffic operations, especially with a signalized system, the pattern may induce extra travel, limit access to and from businesses and focus more traffic on some routes.

The City of Eugene contracted with a traffic engineering consultant to evaluate the feasibility of converting several one-way street segments to two-way operation. The consultant's report, "*Downtown Eugene Circulation and Signal Coordination Transportation Study"* provides the technical basis and rationale for staff's recommendations. An executive summary of that report can be found in **Appendix B**.

The following street segments are recommended for conversion to two way-operation:

- Lawrence Street from 6th Avenue to 13th Avenue. This portion of Lawrence Street currently has two one-way southbound lanes of travel with on-street parking on both sides of the street. Conversion to two-way operation would necessitate the reconstruction of the traffic signal at 6th Avenue, with special consideration given to channelization and part-time or full-time movement restrictions at the I-105 entrance ramp on the north side of 6th Avenue to ensure safety for all existing and new movements.

- Lincoln Street from 5th Avenue to 11th Avenue. This segment of Lincoln Street currently has two one-way northbound travel lanes with on-street parking on both sides of the street. Conversion to two-way operation would require the reconstruction of traffic signals at 6th, 7th, 8th, and 11th avenues.

- Charnelton Street from 6th Avenue to Broadway and 11th Avenue to 13th Avenue. A short segment of Charnelton Street from Broadway to 11th Avenue was converted in December 2002 in conjunction with the opening of the new Eugene Library to improve access and circulation from all directions and to better facilitate access to the new parking structure at Broadway and Charnelton Street. Conversion of the segment from 6th Avenue to Broadway will require reconstruction of the traffic signals at 6th, 7th and 8th avenues. Conversion of the 11th Avenue to 13th Avenue segment will necessitate the reconstruction of the traffic signals at 11th and 13th avenues.

- 8th Avenue between Jefferson Street and Oak Street. This segment of the roadway has two travel lanes regulated as one-way westbound with on-street parking on both sides of the roadway. Conversion would require the reconstruction of signals

at Washington, Lincoln, Charnelton (if not accomplished with those conversions), Olive, Willamette, and Oak streets. Further conversion to two-way operation may be possible following development of the new Federal Courthouse circulation plan.

- 10th Avenue from Olive Street to High Street. The conversion of this street segment may be accomplished in conjunction with the construction of Phase I Bus Rapid Transit (BRT) by Lane Transit District. LTD's project proposes a new signal at 10th Avenue and High Street and revision to signals at Pearl, Oak, and Willamette streets. City staff is recommending the full conversion.

- Willamette Street from 13th Avenue to 20th Avenue. This segment currently has two one-way southbound lanes from 13th Avenue to 19th Avenue merging into a single lane between 19th Avenue and 20th Avenue. There is additional channelization at 18th Avenue with four southbound lanes designated as: left-only, two through-only and one right-turn-only lanes. This would require the reconstruction of traffic signals at 13th Avenue and 18th Avenue and removal of the channelization island at 20th Avenue. The intersection of Willamette Street at 18th Avenue has significant capacity and operational constraints with conversion to two-way operation and would only be feasible with movement restrictions (northbound and eastbound left turn prohibitions). The relocation of Fire Station #1 to the southwest corner of Willamette Street at 13th Avenue is prompting a review of conversion of Willamette Street between 13th Avenue and 16th Avenue; consequently, City staff recommends the conversion of this whole street segment from 13th Avenue to 20th Avenue.

1.2 Implement street system changes described in the Courthouse District Concept Plan:

a. 6th Avenue extended along the railroad tracks, with two one-way westbound lanes from Hilyard Street to 6th Avenue west of Mill Street;

b. Pedestrian, bicycle and auto crossing of Mill Street at 8th Avenue;

c. 8th Avenue as a civic street, with two lanes of traffic, on-street parking and wide sidewalks;

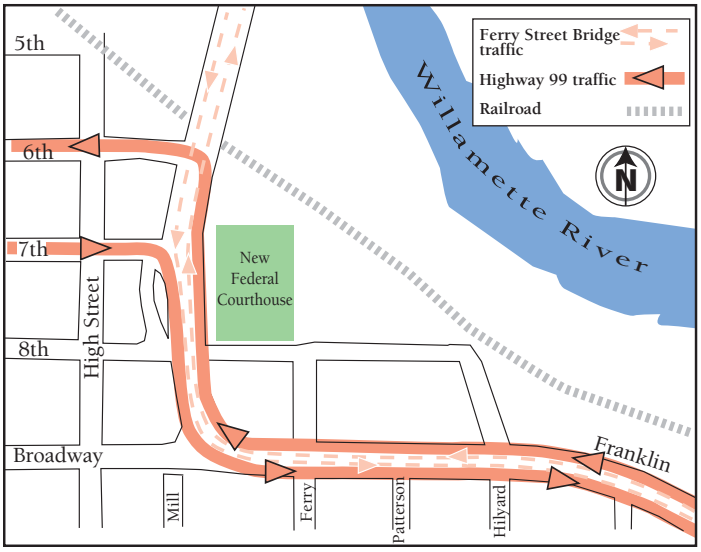
d. A bicycle lane or paths and sidewalks incorporated into the overall design;

e. Some reduction in traffic on Broadway, providing an opportunity to reuse part of that roadway for other purposes, such as wider sidewalks, planter strips or on-street parking;

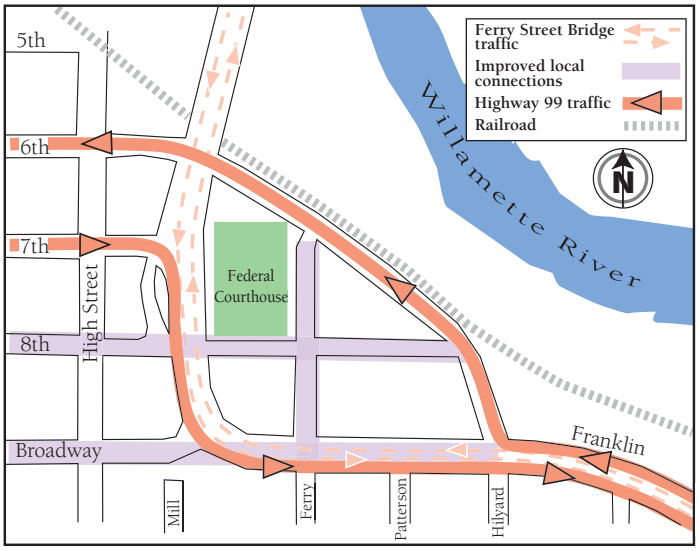
f. Extension of Ferry Street from 8th Avenue to the new alignment of 6th Avenue, to provide local access and circulation.

Discussion: In 2000, the General Services Administration selected the former Agripac/ Chiquita cannery site at 8th Avenue and Ferry Street as the location for a new Federal Courthouse in Eugene. The Federal Courthouse is seen as an integral component of the community's vision for this underutilized industrial area on the edge of downtown; a vision of a new, mixed-use district along Eighth Avenue, leading from the heart of downtown to the Willamette River.

In 2002, the City Council adopted a concept plan for the federal courthouse district, based on four main goals: create a special place around the courthouse; connect to the core of downtown; contribute to the vitality of the downtown core; and connect downtown to the river, in a memorable and accessible way. The concept plan focuses on providing new transportation routes and pedestrian crossings to create a special place by the new Federal Courthouse and to make the connection between downtown and the river.



Currently, the courthouse district is isolated from downtown by a large volume of traffic, representing both local trips to downtown Eugene and through traffic on State Highway 99. State Highway 99 is routed through this part of town along several different street segments: on Franklin Boulevard from Interstate 5 east to Alder Street, then on a portion of East Broadway to Mill Street, then along Mill Street to the 6th /7th Avenue couplet, and continuing west on 6th Avenue with the parallel eastbound movement on 7th Avenue.



The plan envisions rerouting of a major portion of non-local, through traffic (the westbound Highway 99 movement that now occurs via Broadway, Mill Street and 6th Avenue) to a new link running from the Hilyard Street and Broadway intersection to 6th Avenue at High Street. This removal of some of the traffic flow from the Mill Street and 8th Avenue intersection will enable a reconfiguration of that intersection to provide an east-west crossing for pedestrians and vehicles, protected with a new traffic signal.

Other planned projects include reconstruction of 8th Avenue from Mill Street to the crossing at the railroad tracks, and Ferry Street from Broadway to 8th Avenue, along with a one-block extension of Ferry Street from 8th Avenue to the new 6th Avenue running along the railroad tracks. Ferry Street and 8th Avenue will be rebuilt as urban, pedestrian-friendly streets that will provide local access to all modes of travel within the courthouse district. East Broadway will be enhanced by removal of a large portion of westbound traffic flow between Hilyard Street and Mill Street, making it possible to

remove one or more vehicle travel lanes and restore parking or enhance other competing uses within the existing right of way.

Bicycle travel within the courthouse district, and connections to nearby routes, will be improved by incorporating bikeways into new major street work such as the 6th Avenue rerouting, and designing the local neighborhood streets to accommodate bicycles in the mix of slow-moving, moderate volume traffic. A new crossing at 8th Avenue and Mill Street would be designed for safe pedestrian and bicycle access to provide a workable connection from the South Bank path to the courthouse district, and continuing west into downtown via 8th Avenue.

Planning for this new neighborhood within greater downtown is moving beyond the concept level to more detailed plans for major improvements to streets and the overall transportation system in the area bounded by Mill Street, East Broadway, Hilyard Street, and the railroad tracks. City officials have requested federal "earmark" funding for the set of projects described above, and have anticipated such funding by including the projects within the recently adopted Eugene Capital Improvement Program (CIP) for construction in fiscal years 2004 through 2008.

The City recently received federal funds to continue the planning and preliminary design process for the courthouse district transportation improvements. City staff at present are developing an overall project scope and timeline, which will include development of an environmental assessment and opportunities for public review. The tentative timeline calls for this specific planning, environmental and preliminary design work to be done during late 2003 and early 2004. The outcome of this work will help guide future decisions within the CATS area, such as further steps toward converting certain street segments from one-way to two-way operation.

1.3 Address adopted Entrance Beautification Study (1987) goals and policies in any construction or reconstruction proposals for Mill Street, or segments of East Broadway or Franklin Boulevard, east of Mill Street.

Discussion: The *City of Eugene Entrance Beautification Study* (1987) recommends various actions to improve the image and identity of the community from its primary entranceways and to enhance the experience of entering the city. Several of those recommendations focus on the primary entranceways into downtown including the Ferry Street Bridge corridor, the Franklin Boulevard corridor, and the 6th/7th Avenue couplet east of Washington Street.

The 6th/7th Avenue couplet improvement project was completed in 1986, followed by Ferry Street Bridge corridor improvements in 1999. Opportunities exist in the future to continue those entranceway improvements on East Broadway and Franklin Boulevard with the redevelopment of the Courthouse District area and the development of the Bus Rapid Transit system on Franklin Boulevard.

1.4 Extend Oak Street to the north to connect 5th Avenue with Willamette Street at the Eugene Depot.

Discussion: This new street connection, recommended in the North End Scoping Study, will improve access and enhance circulation for the Eugene Depot. The new public street would provide direct access for Amtrak throughway buses, without the need for a turnaround inside the station site. It will also provide for convenient passenger drop-off or handicap accessibility for motorists and will provide for improved circulation for taxis and other transit providers.

Proposed Policy

2. Maintain or improve the operation of the street system for pedestrians, bicycles, transit and automobiles. Balance the need for bicycle lanes on downtown streets with the need for on-street parking and transit facilities.

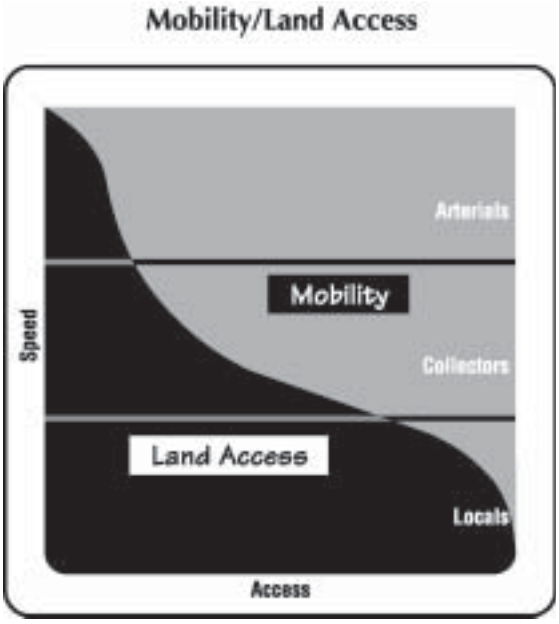
Proposed Implementation Strategies

2.1 Capitalize on other projects, such as signal reconstruction for conversion to two-way operation to perform other roadway enhancements to provide for better, safer utility for pedestrians, bicycles and transit users.

Discussion: Since CATS was last updated in 1993, the City Council has adopted a new policy and design framework for all city streets. With the adoption of the *Eugene Local Street Plan* (LSP) in 1995 and the *Eugene Arterial and Collector Street Plan* (ACSP) in 1999, the principles on which street design in Eugene is based were re-evaluated and substantially changed. One of the primary objectives of the LSP and the ACSP was to adopt a policy structure and implementation strategies for creating a multi-modal street system throughout the City.

Planned improvements to any street segment or intersection related to two-way operation, reduction of vehicle/bicycle, vehicle/pedestrian, or bicycle/ pedestrian conflicts, or other operational concerns, should take advantage of opportunities that may be presented to employ other design techniques that further the multi-modal street objective.

2.2 Adopt an administrative rule to implement access management strategies throughout the city.



Discussion: Congestion associated with increased travel demand and traffic volumes threatens system mobility. Likewise, increased demand, along with numerous conflict points, affect system safety and crash potential. An administrative rule for access management will provide standards and guidelines for the application of access management principles throughout the city, including streets in the downtown core. The concept of access management is to provide efficient ingress and egress to developed land adjacent to the street while simultaneously accommodating the flow of traffic on the roadway in terms of safety, capacity, and speed. Streets with higher classifications such as arterials and collectors have a primary function of providing mobility for users and a secondary function of providing access to adjacent parcels.

There are six basic principles of access management, which include:

- Limit the number of conflict points. Driveways or intersections along a roadway introduce a number of paths for vehicles that will cross, merge into, or diverge from one another and are considered conflict points, which all have the potential for traffic crashes.

- Separate basic conflict areas. Through traffic needs time and distance to react to the deceleration, acceleration and changing travel path of other vehicles at or near a driveway or intersection. Adequate space between these points permits drivers to react to one set of conflict points at a time and provides greater opportunity to avoid crashes.

- Reduce interference with through movement. Traffic often slows down for vehicles turning on, off, or across the roadway. The provision of turning lanes or tapers or restriction of certain turning movements allow the turning movements to occur with less interference with through traffic.

- Provide Sufficient Spacing for Intersections/Driveways. Appropriate spacing of intersections and/or driveways along roadways reduces the frequency of conflict

areas and increases the potential for smooth traffic flow and progression of through movements. Spacing requirements are not exclusive to one side of the street and particular attention should be paid to offset intersections or driveways on undivided roadways.

- Provide and maintain progression along arterial streets. When compatibly phased traffic signals are uniformly spaced on a major roadway, the signals can be coordinated such that through traffic can travel with a minimal amount of stops and delay at the intersections. Such coordination has a secondary benefit of grouping vehicles more closely together. Additionally, equalizing the speed of traffic occurs when drivers take note of their ability to progress through several signals with green indications if they maintain a steady speed.

- Provide adequate on-site circulation and storage. Proper design of internal vehicle circulation and stacking in parking and drive-through facilities and on local streets adjacent to development sites can reduce the number of driveways that are needed on major roadways. Adequate throat depth on major driveways that avoid close internal intersections will smooth the flow of traffic leaving the roadway, and separation of right and left turns exiting a development can shorten queues.

Satisfaction of these principles will also ensure that we maintain compliance with the objectives and policies of the Eugene-Springfield Metropolitan Area Transportation Plan (TransPlan) which guides regional transportation system planning in the Eugene-Springfield metropolitan area for a 20-year planning period. Transportation System Improvement—Roadway Policy #4 of TransPlan states: *"Manage the roadway system to preserve safety and operational efficiency by adopting regulations to manage access to roadways and applying these regulations to decisions related to approving new or modified access to the roadway system."* Adopting an administrative rule on access management will be an essential step toward implementing this adopted policy.

Proposed Policy

3. Use Transportation Systems Development Charges (SDC) to help compensate for the effect of growth on the need for alternative transportation systems.

Discussion: In December 2002, the City Council approved revisions to the transportation SDC methodology to implement Council direction to include a geographic adjustment in that methodology. The newly approved methodology will go into effect in May 2003. Previously, the SDC methodology used a system-wide average trip length (ATL) as a key factor in the rate calculation. The geographic adjustment approved by the Council recognizes a lower average trip length for development in Eugene's central downtown area; that is, the area within the CATS boundary. The methodology also factors in the slightly higher average trip length for new development occurring in other parts of the city. The effect of the adjustment is an SDC rate (cost per trip for the street component of the rate) which is 20 percent lower within the CATS area than the previous city-wide rate and an SDC rate for areas outside of the central area which is four percent higher than the previous city-wide rate.

Additionally, in February 2003 the City Council approved a trip rate adjustment to the transportation SDC methodology for nodal development areas. That adjustment is consistent with the Oregon Transportation Planning Rule allowance for a ten percent reduction in vehicle trip generation for uses located within mixed-use, pedestrian-friendly centers or neighborhoods. Most of the area within the CATS boundary, including downtown; the future Federal Courthouse development area; Riverfront Research Park; and University of Oregon campus are potentially eligible for designation as nodal development areas and thereby become eligible for application of the SDC rate adjustment.

There is evidence to show that a higher-density, mixed-use, pedestrian- and transit-friendly development pattern, such as that promoted by the nodal development designation, can result in reduced automobile trip generation rates. The City's SDC rate adjustment recognizes the reduced impact on the vehicle transportation system from such development and acts as an incentive for appropriate development to locate within the nodal development areas. As the State allowance specifically applies to vehicle trips, this adjustment applies to the street cost per lane mile portion of the SDC, as opposed to the entire cost basis of the SDC which includes an off-street bicycle path component.

The nodal development adjustment will apply to approved development types in designated Nodal Development areas. An area will be deemed a designated Nodal Development area following Council approval of a request to rezone the area either to a Special Area Zone for nodal development or to apply the /ND Nodal Development Overlay Zone to the area. As nodal areas are rezoned for nodal development, SDC reductions will apply to permitted development within the designated node. The downtown area is identified as one of those potential nodes in TransPlan. Circumstances unique to the downtown area may require that the Nodal Development designation for this area occur through some other means, such as the adoption of a policy, specifically identifying the downtown area as a node, or the adoption of a policy identifying the /TD Transit Oriented Development overlay designation as the appropriate trigger for SDC reductions. The SDC reduction mechanism will be addressed in the Downtown Plan Update.

PEDESTRIAN SYSTEM

Walking is the most basic form of transportation; even transit and automobile trips begin and end by walking. Everyone is a pedestrian, including persons using wheelchairs and other forms of mobility assistance. Walking is often the quickest and most convenient way to accomplish short trips in urban areas such as downtown Eugene. Many people may overlook the important role walking plays in the transportation system, since virtually all of their trips are linked by walking.

The pedestrian mode of travel is most visible in urban areas because many people live, work or shop in closer proximity to their homes. Downtown areas typically have a high concentration of origin and destination points and many trip distances are short. So, it is particularly imperative that adequate pedestrian transportation facilities be provided downtown.

Proposed Policy

4. Improve the pedestrian system in the downtown area to encourage walking as a primary means of transportation within downtown.

Proposed Implementation Strategies ***(See Appendix A, Map 3 for Proposed Pedestrian Improvements)***

4.1 Connect new sidewalks in the following locations:

a. Franklin Boulevard. Construct new sidewalk segments on Franklin Boulevard to eliminate gaps on both sides of Franklin Boulevard east of Hilyard Street.

b. Kincaid Street. Construct sidewalk and access ramp along Kincaid Street to connect to the south sidewalk of Franklin Boulevard.

Discussion: Sidewalks are "pedestrian lanes" that provide people with space to travel within the public right-of-way that is separated from moving vehicles. Sidewalks that are safe, accessible, aesthetically pleasing, and accommodate the demand (walking, standing, dining, etc.) will attract pedestrians. They should be continuous and part of a system that provides access to goods, services, transit, and homes.

Virtually all of the streets within the CATS area currently have continuous sidewalks on both sides of the street. Only one street segment within the study area, a short segment of Franklin Boulevard, remains without sidewalks. A complete network of sidewalks and other pedestrian facilities will need to be planned and built in conjunction with development of the Federal Courthouse and surrounding area. Those pedestrian facilities should provide direct, safe connections between the existing downtown and new development east of the Ferry Street Bridge.

4.2 *<u>Connect Downtown to Skinner Butte</u>. Develop a process to create a design proposal and funding mechanism for a pedestrian facility to connect Willamette Street to the Shelton-McMurphy House and up the south side of Skinner Butte.*

<u>Discussion:</u> The extension of pedestrian access north on Willamette Street to Skinner Butte via some type of grade separation at the railroad is also desired and is viewed as an important missing link in the pedestrian system.

4.3 *<u>Evaluate dual-turn lane conflicts</u>. Evaluate intersections with identified pedestrian/vehicle conflicts, as identified on **Appendix A, Map 3**, for opportunities to either eliminate dual-turn movements or otherwise improve pedestrian safety.*

<u>Discussion:</u> Numerous intersections within the CATS area include dual-turn lanes for heavy vehicular movements. While these treatments increase the capacity for vehicles, they complicate the intersection and introduce conflicts between pedestrians and turning vehicles.

Dual left turns across active pedestrian crossings occur at these intersections:

Oak Street at 6th Avenue	Oak Street at 8th Avenue
8th Avenue at Pearl Street	Hilyard Street at Broadway
Oak Street at 11th Avenue	Hilyard Street at 11th Avenue
13th Avenue at Washington Street	13th Avenue at Hilyard Street

Dual right turns across active pedestrian crossings occur at these locations:

Oak Street at 7th Avenue	High Street at 7th Avenue
Broadway at High Street	Pearl Street at 11th Avenue
11th Avenue at Washington Street	Jefferson Street at 11th Avenue

The review and evaluation of street traffic movement, including evaluation of potential one-way to two-way streets, provides an opportunity in this CATS update to investigate improving these intersections for pedestrian crossing safety. It may be possible to eliminate some of the dual-turn movements, and where that is not feasible, there may be other enhancements that can be considered to improve the pedestrian crossing experience.

4.4 *<u>Evaluate pedestrian areas with geometry and volume conflicts</u>. Evaluate intersections and driveway crossings with identified pedestrian/vehicle conflicts related to geometry and traffic volumes, as identified on **Appendix A, Map 3**, for opportunities to improve pedestrian safety.*

Discussion: Some locations within the CATS area have significant vehicular/pedestrian conflicts due to unusual geometry, higher than normal pedestrian volumes, obstructed sight distance from street furniture or other impediments within the normal vision clearance triangle, such as the following examples:

- 10th Avenue and Willamette Street. All four quadrants of the intersection of 10th Avenue and Willamette Street, with high pedestrian volumes, accentuated by the proximity of the LCC downtown campus and the LTD Eugene Station, LCOG Senior & Disabled services. Street furniture, particularly in the northeast quadrant (in front of the Downtown Athletic Club) and southwest quadrant (near the McDonald Theater) on narrow sidewalks, hampers visibility and reduces capacity for pedestrian travel.

- 12th Avenue at Willamette Street. The bicycle/pedestrian crossings on Willamette Street, where 12th Avenue would intersect (there is no east-west street at this point). Motorists are often inattentive at this location where pedestrians and bicyclists frequently cross, but connections pass through parking areas and the roadway does not look like an intersection.

- 11th Avenue between Willamette Street and Olive Street. The Washington Mutual driveway on the south side of 11th Avenue, between Willamette Street and Olive Street, where drivers are looking to the right, due to the one-way westbound operation of 11th Avenue, and pedestrians proceeding eastbound are confronted with additional conflict.

- Oak Street between Broadway and 10th Avenue. The two-lane entry to the Overpark parking structure, on the west side of Oak Street between Broadway and 10th Avenue, with a very wide curb cut, serving the two entrance lanes plus the east-west alley and parking lot entry north of the structure. The conflict is aggravated by the inappropriate westbound movement from the alley on the east side of Oak into the Overpark.

- Oak Street between 10th Avenue and 11th Avenue. The two-lane exit from the Overpark parking structure, on the west side of Oak Street between 10th Avenue and 11th Avenue, which has a marked stop bar on the back side of the sidewalk that is often disregarded by exiting motorists. Drivers are often looking to their right, due to the one-way northbound operation of Oak Street and may not see southbound pedestrians. There is also a substantial movement to the east-west alley on the east side of Oak Street which is offset to the south from the parking structure exit.

- 12th Avenue between Patterson Street and Hilyard Street. Entrance to the Peace Health parking structure introduces heavy vehicular volumes across the pedestrian path.

- Patterson Street between 12th Avenue and 13th Avenue. Entrances to the Peace Health parking structures have heavy vehicular volumes across the pedestrian path.

As part of the CATS update, these conflict locations will be evaluated to determine what strategies might be applied to these situations. In some cases, operational "fixes" such as signs, striping, etc. may be warranted, while other locations may require a larger scale project to address the issues.

A few locations within the CATS study area present unusual challenges that will require a unique approach, including the following:

- 8th Avenue and Mill Street. The intersection of 8th Avenue and Mill Street, which is currently two halves of an intersection, with right-in, right-out vehicular movements at 8th Avenue and Mill Street (the south end of the Ferry Street Bridge railroad overcrossing viaduct). Pedestrians do cross Mill Street at grade in this location in off-peak periods, but during peaks, there are insufficient gaps to permit such a crossing. The closest pedestrian crossings are one block to the south at Broadway and Mill Street or two to three blocks north, where the sidewalk along the north side of 6th Avenue continues under the south end of the viaduct, just south of the railroad, extending to the cannery connector bicycle route, with a wide sidewalk along the east side of Mill Street to 8th Avenue. This conflict area will become more intense with the anticipated additional demands created by the new Federal Courthouse and adjacent neighborhood redevelopment.

- Broadway between Mill Street and Hilyard Street. The narrow, curbside sidewalks along both sides of Broadway between Mill Street and Hilyard Street, are interrupted by frequent curb cuts and busy driveways in this automobile intensive commercial business district. The intersection of Broadway at Patterson Street, with a heavy east to southbound right turn movement and multiple driveways at the 7-11 convenience store, create an impediment to safe pedestrian movement.

Both of these areas will be addressed as part of the federal courthouse district transportation improvements, included in the Courthouse District Concept Plan adopted by the City Council in 2002. Staff will continue to work on integration of these transportation solutions with the overall CATS study and related components such as Bus Rapid Transit within the greater downtown area.

- 6th Avenue and 7th Avenue between Jefferson Street and High Street. These two four-lane-wide streets form a one-way couplet and carry Oregon Highway 99 through Eugene. These two 46 foot wide roadways create an apparent impediment to pedestrians, particularly since the 72 second traffic signal cycle results in perceivably longer delays for pedestrians walking in downtown where the signal

cycle is 60 seconds. The colorized concrete pavement crosswalks helps to mark these crossings from the pedestrian's perspective, but offers little contrast from the driver's perspective. The effect may be a false sense of security for pedestrians. Other methods may be used in this and other locations as options to improve the visibility and safety of pedestrian crossings such as: contrasting striping, raised reflective markers, in-pavement light emitting diodes (LEDs), or raised crossings. Any changes to 6th Avenue and 7th Avenue would require coordination and approval by the Oregon Department of Transportation as they are ODOT facilities.

4.5 Adopt an administrative rule to amend Design Standards and Guidelines for Eugene Streets, Sidewalks, Bikeways, and Accessways, to create a new design standard or guideline for the placement of signal and light poles, signal boxes, and street furniture.

Discussion: Well-designed walking environments are enhanced by urban design elements and street furniture such as benches, bicycle racks, pay telephones, bus shelters, trash receptacles, and drinking fountains. Sidewalks must be properly maintained and kept clear of debris, overgrown landscaping, tripping hazards, and should be well drained to prevent the accumulation of water on the walkways. Street furniture should be carefully placed to create an unobstructed path for pedestrians. The current standards do not adequately address this issue.

Pedestrian amenities on downtown streets are concentrated in the vicinity of the old pedestrian mall. Those amenities include landscaping, benches, bike racks, ornamental street lights and other features on Broadway from Pearl Street to Lincoln Street; Willamette Street from 6th Avenue to 11th Avenue; and Olive Street from 8th Avenue to 11th Avenue. The Downtown Visioning Project calls for improvements to the overall downtown walking environment and the North End Scoping Study recommends pedestrian improvements along 5th Avenue and adjacent blocks within the north end study area. Improvement efforts in both areas should insure that sidewalks are kept clear of poles, signposts, newspaper racks, and other vertical obstacles that could block through pedestrian movement, obscure a driver's view or pedestrian visibility, or become a tripping hazard. This principle is particularly important at corners and approaches to those corners.

4.6 Use design approaches found in Design Standards and Guidelines for Eugene Streets, Sidewalks, Bikeways, and Accessways that further the creation of a multi-modal street network in this area.

Discussion: The City's new street design standards and guidelines provide an extensive array of design elements and techniques to address a wide range of conditions and

problems found throughout the city. The document recognizes that not all streets are the same, even if they have similar street classifications and functions. Streets, or even segments of a street, may have unique characteristics or may exist in a context that is different from other streets. The document outlines an inclusive street design process that promotes flexibility and creativity and allows street designers to avoid overly-rigid design approaches when developing street construction or reconstruction plans.

Proposed Policy

5. Encourage and promote the creation of "great streets" within the downtown area that stimulate pedestrian activity while allowing for the movement of bicycles and slow-moving automobile traffic.

Proposed Implementation Strategies

5.1 Develop specific implementation proposals to convert the following streets to "Great Streets":

a. 8th Avenue between the Park Blocks and the Willamette River

b. Broadway between Oak Street and Hilyard Street

c. Willamette Street between 5th Avenue and 13th Avenue

d. 5th Avenue between Willamette Street and High Street (with potential extension to the Willamette River).

5.2 Provide that each of the "Great Street" implementation proposals address:

- *the design principles that will guide the improvement of the street;*
- *identification of existing problems with the physical structure of the street ROW that needs to be corrected;*
- *a design proposal for improvements to travel lanes, sidewalks, turn lanes, on-street parking lanes, lighting, landscaping, crosswalks, intersections, and other design features of the public right-of-way;*
- *the design standards or guidelines for development of parcels abutting the street; and*
- *a financing proposal for constructing the public improvement.*

Discussion: The North End Scoping Study and Downtown Visioning Project both strongly endorsed implementation of the "Great Streets" concept in downtown Eugene. The Great Streets concept employs traffic calming techniques, on-street parking, landscaping, lighting, and building design factors to create a lively, inviting and safe street environment that favors pedestrian travel. Implementation of the concept will require physical changes to the street itself, as well as land use regulations and/or design standards for buildings fronting on those streets. The Great Streets concept includes streets of two distinct types: a mixed-use retail, office and residential street; and a "civic street" that provides for the concentration of government facilities and other civic uses. Previous visioning and scoping projects identified portions of

Willamette Street, Broadway, and 5th Avenue as candidates for the mixed-use type and 8th Avenue as a candidate for the civic street type. The recently-reopened section of Broadway between Charnelton Street and Oak Street is the first street to be designed and regulated as a “Great Street” in the downtown area.

BICYCLE FACILITIES

The support and promotion of bicycling is critical to the reduction of traffic congestion and preservation of air quality in the CATS area. In addition, the presence of bicyclists lends a more human scale to the streets of downtown Eugene. A network of bikeways has been developed in Eugene since the mid-1970s providing a central core of various facility types, paths, bicycle lanes, and designated routes. Implementation of the 1993 CATS bikeway projects, as well as additions of bicycle parking downtown, helped to increase bicycling mobility and comfort in the central part of town which previously had few bicycle amenities. The CATS update adds projects and policies designed to enhance the existing system, making bicycling even more inviting and safe in the downtown area.

Proposed Policy

6. Improve the safety and efficiency of existing bikeways in the downtown area. Improve bicycle circulation within the downtown area and improve access to existing and planned routes extending outside of the downtown area. Balance the need for bicycle lanes on downtown streets with the need for on-street parking.

Proposed Implementation Strategies ***(See Appendix A, Map 4 for Proposed Bicycling Improvements)***

6.1 Reevaluate bicycle facilities throughout the CATS area as changes to downtown streets are implemented.

Discussion: Any decision to change the direction of streets from one-way to two-way traffic will affect the way bicycle transportation is provided through the downtown. Currently, bicycle lanes are not provided on every street but only on those streets that provide continuity or critical connections with other routes. This routing principle is used both within the CATS area and the city as a whole. Bicycle provisions will need to be reviewed as these street direction conversions are implemented. Affected streets with existing bicycle lanes include 8th Avenue, 10th Avenue, Charnelton Street and Lincoln Street.

Most cyclists presently avoid using the existing Franklin Boulevard/Broadway/Mill Street corridor due to the lack of specific, clearly-marked bicycle facilities in the area. Changes in traffic flow due to construction of the proposed Federal Courthouse will present opportunities for improving bicycle/pedestrian access to the east and west of this area. Specifically, street realignments could provide for safer and more direct bicycle connections across Mill Street at 8th Avenue to allow bicycle access to the existing bicycle lane on 8th Avenue west of High Street. A major new bikeway connection along the proposed 6th Avenue realignment between High Street and Hilyard Street will also be included.

6.2 Apply design approaches found in Design Standards and Guidelines for Eugene Streets, Sidewalks, Bikeways and Accessways that encourage and support bicycle traffic on appropriate downtown streets.

Discussion: The 1993 CATS included a policy to develop a system of "green streets" designed to favor walking, bicycling and transit use. That document suggested that City staff develop a conceptual plan for two green streets; one on 15th Avenue, and one on Mill Street. The conceptual plan for the section of 15th Avenue between Jefferson Street and Willamette Street was completed in 1995; reconstruction of the street as a "green street" was completed in 2000. Construction plans for Phase I of the Bus Rapid Transit route in downtown Eugene have eliminated the potential for construction of a "green street" on Mill Street - at least as that term was understood in 1993.

Since the adoption of the last CATS, staff has created and the Council has adopted a set of design standards and guidelines for city streets. The document *Design Standards and Guidelines for Eugene Streets, Sidewalks, Bikeways and Accessways* is both a rulebook for street building and a catalogue of techniques for constructing multi-modal streets. It contains standards for all of the particular design elements that were used in the reconstruction of 15th Avenue as a "green street" and more. The standards in the document apply to all new construction, reconstruction and improvements to existing unimproved streets. Changes to the design standards document can be accomplished through the administrative rule process.

Some design approaches used in the 15th Avenue project were more successful than others. In general, the redesign has improved conditions for cyclists and pedestrians by adding traffic circles, pedestrian crosswalk enhancements, curb extensions and ramps at intersections, curb extensions at mid-block locations, setback sidewalks, streets trees and on-street parking. However, some cyclists have expressed concern that the curb extension design used at busy streets exposes them to turning cars. This element should be modified on subsequent projects that include bicycle related improvements.

Continued experimentation with bicycle facility design is seen in the design for Willamette Street and Olive Street between 8th Avenue and 10th Avenue, and in the more recent design for the reopening of Broadway. The Willamette Street and Olive Street designs have proven troublesome for cyclists. Those streets were designed so that bicycle traffic would mix with automobile traffic, since there was not enough room within the right-of-way for striped bicycle lanes. The resulting design, which also accommodated the needs of transit vehicles, created a travel lane that is too narrow to be shared, side by side, by both a car and a bicycle; but is wide enough to confuse motorists and bicyclists alike. Cyclists report that motorists are sometimes impatient with bicyclists in the travel lane or try to pass them too closely. The recently reopened section of Broadway between Oak Street and Charnelton Street, on the other hand, has narrow travel lanes (10 feet) and has proven to be a comfortable design for mixing bicycles and automobiles, both of which share the same narrow lane. The application of that design to other streets will be limited by the intended use of the street. For example, if the street is to be used by larger transit vehicles, vehicle lane widths and intersection turning radii would complicate such a shared lane design.

The recent construction of the Eugene Public Library at 10th Avenue and Olive Street, with its limited on-site parking, may represent the nature of changing needs in the street system. Staff anticipates that there will be an increasing desire by families for a bicycle-friendly corridor between the 5th Avenue bicycle lanes and the 15th Avenue bikeway, providing better access to the library on 10th Avenue. If demand for a "family-safe" bicycle corridor to the new library increases, design improvements similar to those used on the 15th Avenue green street could be employed on Charnelton Street as well.

6.3 Explore methods to add long-term bicycle parking downtown. Using the recommendations of the 1996 Bicycle Parking Committee explore locations and funding sources for adding long-term bicycle parking for downtown employees.

Discussion: Bicycle parking needs in the downtown area have been addressed with the addition of short-term parking on sidewalks during the street reopening projects of Willamette Street, Olive Street, and Broadway. Also, a project by the 1996 downtown bicycle parking advisory committee installed additional short-term parking. Recent changes to the land use chapter of the Municipal Code have removed the bicycle parking exempt zone for the downtown in an attempt to address long-term parking needs for downtown employees. Some infill of long-term parking is yet needed near large downtown employers.

6.4 Evaluate the effects and benefits of converting Pearl Street and High Street bicycle lanes to right-side lanes.

Discussion: Bicycle lanes on Pearl Street and High Street were originally placed on the left side of the street to avoid the double right turns on Pearl Street at 11th Avenue and on High Street at 7th Avenue. While they remain operable on the left side, there are reasons to reconsider this placement. Some of those reasons include the recent change to two-way operation of Pearl Street from 5th Avenue to 6th Avenue for the LTD *Breeze* shuttle route; the fact that there are new designs available for dealing with dual right-turn lanes next to right-side bicycle lanes; and the issue of consistency of bicycle lane placement. Further investigation of right-side lanes on these two streets is necessary because additional right-of-way may be necessary at the SE corner of High Street and 7th Avenue and the NW corner of Pearl Street and 11th Avenue, with accompanying reconstruction or restriping at Pearl Street and 10th Avenue. On-street parking may also have to be shifted in some locations to

accommodate right-wide lanes. Curb extensions on Pearl Street and High Street at 15th Avenue, completed in 2000 as part of the 15th Avenue bikeway improvement project, may also have to be shifted depending on the chosen alignment.

6.5 Initiate corrective measures to resolve conflicts and otherwise improve conditions for bicyclists in the following areas:

a. Willamette Street and Olive Street, between 8th Avenue and 10th Avenue. Install stencil or other reminder to motorists to share the road with bicyclists.
b. 11th Avenue and Oak Street intersection. Consider installing blue background to the bicycle lane as it crosses Oak Street.
c. 12th Avenue bikeway at Willamette Street and Oak Alley. Install a stencil in the alley intersection or consider a raised crossing. For Willamette, consider other enhancements for the street crossing.
d. Pearl Street at 19th Avenue/Amazon Parkway. Install warning sign at the NE and SE corners of the intersection.
e. High Street at 7th Avenue. Enhance the "bike box" with blue background similar to conflict areas on bicycle lanes.
f. Oak Street, 8th Avenue to 10th Avenue. Consider striping a bicycle lane next to the newly added on-street parking on the east side of the street.
g. 18th Avenue at Hilyard Street. Consider adding a right turn lane for this heavy turning movement for motorists in order to encourage yielding to bicyclists before making the turn.

Discussion: Various intersections pose problems for cyclists in the CATS area:

- Willamette Street and Olive Street between 8th Avenue and 10th Avenue. The desire to integrate bicycle and automobile traffic in this two-block long area has not been completely successful. Bicyclists complain of feeling threatened by automobiles in this segment. Stencils or other reminders to motorists to share the road, should be considered in this two-block long segment if the new stop signs at Broadway are not effective in improving cyclist's comfort level.

- 11th Avenue at Oak Street. Motorists turning right from 11th Avenue to Oak Street are problematic for through bicyclists. This seems to be complicated by traffic congestion which causes delays for those motorists (who then might forget to look for traffic in the bicycle lane before turning). This intersection is a possible candidate for coloring the bicycle lane blue through the Oak Street intersection.

- 12th Avenue and Willamette Street at Oak Alley. The popular 12th Avenue bicycle route faces challenges at Willamette Street and at the Oak alley east of there. Motorists are not expecting crossing traffic and are not prepared to interact with the

cyclists. Warning signs on Willamette Street and in the north-south alley have not been completely effective. A stencil in the pavement in the alley would reinforce the presence of that crossing. If that is not effective, a raised or painted crossing should be considered. Additional treatments are also needed for Willamette Street. This crossing could be enhance by curb extensions.

- Pearl Street at 19th Avenue/Amazon Parkway. Southbound cyclists turning left to get to the Amazon Park Path face conflicts with motorists who appear to forget that oncoming traffic can have a green light when they have a red one. The northbound motorists sometimes pull out in front of left-turning cyclists. Warning signs placed at the NE and SE corners of the intersection should act as reminders to the motorists.

- High Street at 7th Avenue. The transition for bicyclists between the left side of the street and the right side on High Street (between 6th Avenue and 7th Avenue) is complicated by the close proximity to the dual right turns at 7th Avenue - the very feature which caused the bike lanes to be placed on the left side. An advance stop bar treatment (with a box that allows cyclists to merge in front of waiting motorists) has been beneficial in assisting the merge across two active travel lanes. An enhancement of this treatment is needed. Coloring the "bike box" blue to gain more attention from motorists, will be considered.

- Oak Street, 8th Avenue to 10th Avenue. One travel lane was recently removed on this street segment; the lane was replaced with on-street parking. When this change occurred, space became available for a bicycle lane. Combined lanes (through bicycle lane plus right-turn lane) can be applied at existing right-turn lanes.

· 18th Avenue at Hilyard Street. A heavy right turning movement by motorists challenges through bicycle movement at this intersection. Before extending the bicycle lanes on 18th Avenue to Agate Street, this potential conflict area must be addressed.

6.6 Install bicycle lanes on the following street segments:

a. Willamette Street, from 13th Avenue to 20th Avenue, once that segment is changed from one-way to two-way traffic flow.
b. Lincoln Street, from 11th Avenue to 13th Avenue, when the existing bicycle lanes on 11th Avenue and on 13th Avenue are extended to the west.
c. Extend the existing bicycle lane on 10th Avenue between Oak Street and High Street in conjunction with the Phase I BRT construction project.

Discussion: Most of the suggested improvements for bicycles in the 1993 CATS have been accomplished. Bicycle lanes and routes have been added on several streets in the CATS area providing improved access to bicyclists. Other minor signing and striping adjustments have also increased safety for cyclists on these streets.

Some long-term bicycle lane or route projects remain from the 1993 CATS. The following street segments are missing links in the CATS area bicycle network which, otherwise, has a high degree of continuity.

- Willamette Street. The addition of bicycle lanes from 13th Avenue to 20th Avenue depends on the decision to change its operation from a one-way street to two-way operation, south of 13th Avenue. With its narrow travel lanes, the section between 7th Avenue and 11th Avenue presently operates as a signed or designated route. Bicycle lanes can be added south of 13th Avenue by restriping the existing roadway and retaining on-street parking.

- Lincoln Street. The two-block section of Lincoln Street between 11th Avenue and 13th Avenue was originally intended to provide a northbound bicycle lane which would connect a bicycle lane on 13th Avenue to the lane on Lincoln Street north of 11th Avenue. This would require parking removal and the possible addition of parking bays to offset the loss of parking. It is possible, due to the reduced volume of auto traffic on this section, that a designated route (requiring no parking loss) would be considered instead. This route would be established at the time that bicycle lanes are extended to the west from Lincoln Street on 11th Avenue and 13th Avenue.

- 10th Avenue. The two-block section of 10th Avenue from Lincoln Street to Olive Street was recently changed to two-way traffic flow in conjunction with the new Eugene Library opening. Currently, 10th Avenue has a bicycle lane extending from Lincoln Street to Oak Street. This lane should be further extended from Oak Street to High Street in conjunction with construction of the Bus Rapid Transit project on 10th Avenue. The combination of adding the Bus Rapid Transit line and bicycle lanes will require parking removal fore this section of 10th Avenue.

TRANSIT SYSTEM

Existing transit service within the CATS area is very good and, with improvements proposed as part of the regional Bus Rapid Transit (BRT) system, will continue to improve over time. The new downtown transit center, completed in 1996, supports a radial transit system that sends buses to the far reaches of LTD's service area. The number of buses leaving, arriving and passing through the transit center every day results in a high frequency of transit service on most major streets within the CATS area.

The provision of efficient and effective transit service is a primary tool for managing parking and traffic in intensively developed areas like downtown, the University of Oregon campus and Sacred Heart Hospital complex.

Proposed Policy

7. Support a frequent transit-based shuttle service in the greater downtown area to link major employment and activity centers and to provide an attractive, energy-efficient, low or no cost, transportation alternative for those who live, work or shop within the greater downtown area.

Proposed Implementation Strategies ***(See Appendix A, Map 5 for Preliminary Transit Routing Discussion Map)***

7.1 Maintain or enhance the frequency of the downtown shuttle service.

Discussion: Within the next five years, fixed-route transit service will continue to operate within the CATS study area, serving major destinations from the downtown area. In addition to fixed-route service, the *Breeze* shuttle will continue to operate at fifteen minute frequencies, with frequencies potentially increasing based on ridership demand and funding. The first Bus Rapid Transit (BRT) route is anticipated to begin operating in late 2005, and will provide a higher level of transit service from downtown Eugene to the University of Oregon and downtown Springfield. Fixed route service and routing will be adjusted to accommodate the addition of the BRT to the system.

7.2 Evaluate the feasibility of adding a transit connection to the existing bicycle and pedestrian facility that connects 6th Avenue and 7th Avenue on Willamette Street.

Discussion: Currently, the *Breeze* shuttle uses Olive Street to serve the downtown area to 5th Avenue. This plan proposes consideration of a new transit connection on Willamette Street between 6th Avenue and 7th Avenue. This new connection would be provided within the right-of-way that currently serves bicycle and pedestrian traffic only. A transit connection in this location would provide a more direct connection from the downtown transit station to the Eugene Depot on 5th Avenue, improving multi-

modal connectivity within the downtown area. The routing would also provide more direct and convenient service to both the Hult Center and the Hilton Hotel, as well as other destinations along Willamette Street.

The viability of this connection is unknown and must be studied in more detail before a decision is made to pursue the connection. Staff recommends that the City conduct a feasibility study to evaluate impacts on (1) the Hult Center and Hilton Hotel plaza designs, (2) bicycle and pedestrian circulation; and (3) transit efficiency. The study should also evaluate planning, design and construction costs for the facility.

7.3 Develop specific transit routing options for future Shuttle or BRT service for the future Federal Courthouse site and redevelopment areas adjacent to the site.

Discussion: A future *Breeze* shuttle route will likely be considered within the next five to ten years. A possible transit river crossing near Autzen Stadium could be considered for routing options for the second *Breeze* shuttle. The addition of a second shuttle could affect transit routing within the downtown area. The effectiveness of the *Breeze* shuttle will continue to be evaluated. Traffic congestion and street configuration into the downtown area contributes to increased transit travel time and decreases the efficiency of the system. As discussed in 7.2 above, one option that would improve transit travel time and efficiency for the shuttle would be the opening of Willamette Street between 6th Avenue and 7th Avenue as a transit, bicycle and pedestrian-only street. This shuttle routing option, shown on the attached map **(Appendix A, Map 5)**, should be considered as part of the CATS process.

A future BRT route is currently being planned for the Coburg Road corridor. Specific routing for this alignment has not yet been determined, but will affect existing transit routing into downtown Eugene. Extension of BRT service to the Coburg Road corridor is likely to occur on High Street and/or Pearl Street. The future Federal Courthouse will need to be served by transit, and transit priority to the courthouse site should be considered for either a future Shuttle or BRT route.

7.4 Evaluate the potential of High Street, Pearl Street, Washington Street, Jefferson Street and 10th Avenue (west of Willamette Street) to serve as future BRT routes as decisions are made regarding the conversion of one-way streets to two-way traffic flows.

Discussion: The most direct routing for BRT service to the east and west of the Eugene Station likely would be on the High Street/Pearl Street, and Washington Street/Jefferson Street one-way couplets. Decisions affecting two-way conversions of these one-way streets should consider potential BRT routing.

10th Avenue serves as the BRT route to the east of the Eugene Station for the Phase I BRT corridor. 10th Avenue will likely be the preferred routing of future BRT corridors to the west of the Eugene Station.

VEHICLE PARKING

The City manages neighborhood and downtown parking programs, including operation of off-street parking facilities, parking control and Municipal Court enforcement of the City Code. This also include planning and development for future parking needs of the City. The parking programs include 2,839 spaces in eight downtown structures, 423 spaces in downtown surface lots, 3,832 on-street spaces and neighborhood parking permits. In the downtown area, Parking Services also provides 11 lockable bike cages for all-day storage and widely distributed bike racks for short-term use.

The Parking Enterprise Fund was created in the 1980s to separate revenues and expenditures from the General Fund. Currently, parking revenues fully support the various parking programs, with no subsidy from the General Fund.

Proposed Policy

8. Support intensive development in the downtown area through parking management strategies and ensure that an adequate supply of parking is available downtown to meet the needs of residents, workers, and customers of downtown facilities.

Proposed Implementation Strategies

8.1 Reduce the inventory of surface lot parking by encouraging redevelopment of such sites through zoning and permit requirements.

Discussion: The parking element of the 1993 CATS was weighted towards policy development to encourage compact urban growth and alternative mode use through strategies that minimize surface parking lots, expand on-street parking opportunities, generate financial incentives and Land Use Code language supporting such goals.

Many of the strategies have been implemented and are ongoing. Recent revisions to the Land Use Code will encourage structured parking as a replacement for surface parking through the Parking Exempt Zone, Floor Area Ratio requirements and limits on surface parking area in C-3 zoned properties. The Land Use Code restrictions on surface parking within the CATS area means new developments will likely construct or share in the cost of constructing new structured parking facilities. The Parking Exempt Zone, Floor Area Ratio requirements and landscaping requirements in the Land Use Code, coupled with the high cost of land downtown encourage structured parking in this area.

While structured parking may be desirable in encouraging condensed, compact growth, the cost to provide structured parking may inhibit potential developments. An example is the 20 surface parking space limit imposed in C-3 zoned areas. Under the 2001 Land Use Code Update (LUCU, Section 9.2161), any additional parking in excess of 20

spaces must be met with structured parking. This requirement will likely increase parking costs, for future developments needing more than 20 parking spaces, due to the higher cost of providing structured spaces. This may be an unintended consequence prompting a reconsideration of the 20 space parking limit for new developments in the downtown area (primarily C-3 zoning).

The number of surface parking lots downtown continues to diminish as development occurs. The revenue stream from a well utilized surface parking lot is higher than many of the retail and commercial land uses at the current time. As land development and space rental demand increases, these uses should bring a greater financial return than the surface parking thereby encouraging redevelopment of the surface parking areas.

8.2 Develop more on-street parking in high demand areas by converting parallel parking to diagonal parking where right-of-way and paving width allow diagonal parking to occur safely.

Discussion: Diagonal parking requires more back-out space than a typical travel lane provides, so the additional paving width needed to provide diagonal parking on at least one side of a street is generally not available on Eugene's downtown streets. In 2001, City staff constructed temporary diagonal parking layouts on several downtown street segments, including the Park Blocks on either side of Oak Street south of 8th Avenue; and High Street between 5th Avenue and 6th Avenue. There was sufficient space available to accommodate diagonal parking only on a portion of the west side of High Street, although some commercial truck spaces were displaced by the additional diagonal parking.

Safety is an important consideration of diagonal parking. Typically, bicyclists or other motorists passing behind diagonally parked cars cannot be seen by drivers backing out of an angled space. Some communities have regulated the diagonal parking spaces as back-in only operation, but education and enforcement of the unusual configuration is sometimes difficult. Front and rear bumper overhang also varies considerably with vehicle type, which can reduce the clear area of a curbside sidewalk or expose street trees to damage from the bumper overhang.

8.3 Develop parking facility siting recommendations and options. Utilize the information developed from the Rich Parking analysis (May 2002), along with demonstrated development plans, to plan for the next public, structured parking facility. Regularly update the parking supply and demand database.

8.4 Minimize the reduction of on-street parking spaces for street re-configurations or alternate uses.

8.5 Encourage the development and use of financing tools, such as Urban Renewal Funds and private/public partnerships, for the construction of new parking structures downtown when the parking demand is demonstrated.

Discussion: To help gauge the parking supply and demand in the downtown area, a study was commissioned in the fall of 2001.

Rich and Associates prepared a general analysis of parking needs (May 2002)[1] using field data collected by the City of Eugene. The data collected by the City consisted of a detailed examination of square footage of land use on each block, a calculation of parking demand based on parking generation factors used by the City and a compilation of parking supply. Parking supply data included on-street and off-street parking for municipal and private facilities. The assessment by the City resulted in a calculated parking demand for 12,450 spaces and a parking supply of 15,394 spaces for a net surplus of 2,944 spaces.

For the entire parking study area, roughly equivalent to the Downtown Plan boundary, *the data indicates there is an adequate supply of parking spaces to meet the calculated demand at the time of the analysis*. From the information gathered, mapped and described in the analysis, certain zones or areas have greater parking demand than others. This will likely be exacerbated by future developments in areas of high demand. A copy of the Parking Analysis may be provided upon request.

Planned developments including the new Federal Courthouse Building, Eugene Depot, and potential developments around the Fifth Street Public Market area will likely create additional parking demand where supply is barely meeting the present demand. The Rich Analysis reviewed a few possible sites to address the potential increased demand.

Rich's analysis of these sites was very general in nature. Possible structure dimensions were identified, with potential net gains in parking spaces calculated. The medium-sized parking structures were characterized to meet the code requirements for ground floor occupancy and by a floor scheme that adds light and air into the center of the parking structure making it more user friendly. Gross parking space costs were estimated at $16,000 - $18,000 per space. Net added parking space costs were estimated at $21,000 - $31,000 per space.

The City currently has six parking structures open to public parking within the CATS area. A seventh parking garage, owned by the City, was designed to serve the newly opened Eugene Library downtown. There is only one privately owned parking structure in the downtown area currently open to public parking.

Increasing on-street parking was previously identified, in the 1993 CATS, as a strategy within the downtown area. While some increase of on-street parking has occurred, there has been an even greater number of on-street parking spaces lost to other uses of the available right-of-way, such as bicycle lanes, bus stops and other street reconfigurations. (A summary of on street parking changes downtown, since the 1993

[1]The area studied was bounded roughly by 2nd Avenue on the north, Washington Street on the west, 13th Avenue on the south and High Street/Mill Street and Hilyard Street on the east.

CATS Update, can be found in **Appendix D**). Such losses are expected to continue with development of the planned Bus Rapid Transit (BRT) routes in the downtown area. For example, the location of the BRT lanes on 10th Avenue will result in the loss of 22 on-street parking spaces between Olive Street and Mill Street. These losses can have negative impacts to downtown commerce. The loss of commercially marked zones can also cause hardships for the delivery and pickup of goods downtown.

North End:

The City is proceeding with the Eugene Depot Project to renovate and improve the current Amtrak station. Included in this project is a redesign of the parking areas near the Eugene Depot. In the short term, there should be only a slight reduction in the number of parking spaces available. Longer term development anticipated in the north end, along with projected increases in train ridership, will contribute to the need for additional public parking in the area. A 400 - 500 space garage within 1,000 feet of the Eugene Depot site may be warranted to serve this long term demand. Such a garage might serve the planned new Federal Courthouse building as well as potential new developments in the north end area.

West University:

The proposed move of Sacred Heart Hospital, out of the West University Neighborhood presents unknown impacts for parking in this vicinity. Currently, demand is very high and is related to the available supply of parking. Depending on the extent of hospital services and related commercial activity that moves to a new hospital site, this high demand may lessen.

Conversely, the University of Oregon's continued student enrollment gains will cause increasing demand for parking. The vacated supply for hospital related uses may be available to offset the University's increasing needs.

The City or private entities may choose to develop parking structures as demand and financing are present and available. A key is to foresee, plan, and direct developments where parking is available or provide parking where current demand and planned developments are likely to occur. Additional parking structure needs will likely occur as development demand is generated. Parking is one of the few remaining tools available to the City in guiding development in the downtown area.

The high cost of providing parking downtown puts pressure on the City and private developers to not "over supply" available parking. As demand and price for parking spaces increases, so might alternative modes of transportation use. The high cost of providing parking also lends to the development of larger parking structures so as to benefit from the economies of scale.

Proposed Policy

9. Make parking downtown convenient, affordable, safe and easy to use.

Proposed Implementation Strategies

9.1 Implement a marketing/public information campaign that would make parking downtown more user friendly. Actions may include: upgraded signing to direct patrons to City owned parking, new printing of the "Easy Park" brochure, update of other information sources related to parking and through promotion of the meter "cash key" and other incentives for downtown parking. (A cash key is like a debit card for parking meters, rechargeable and useable in most parking meters downtown.)

9.2 Encourage utilization of structured parking downtown. An example includes allowing free parking on Saturdays, in garages, to stimulate use and customer familiarization with the garages. Monitor and implement security measures, within the City's parking facilities, to enhance the sense of safety.

9.3 Review parking rates annually to ensure they are covering operational expenses and are within market rates.

Discussion: There are three major categories of users of parking space downtown: shoppers or customers, workers, and residents. Parkers in these categories may be influenced by different factors in relationship to parking. The major factors that influence parking habits include: distance of parking from destination, price, safety, and ease of use.

a. Distance. Up to three blocks (~1,000 feet) is the range most parkers will consider reasonable to walk from their parking spot to shop, work or reside. This range impacts the need for parking in specific blocks or areas due to parking demand, but also the relative proximity to parking supply.

b. Pricing. The pricing of parking must be kept within justifiable limits as compared with similar sized jurisdictions for public parking and as compared to the private sector parking supply. Market comparability is reviewed regularly within the City's Parking Services section.

c. Safety. Safety and security are important considerations for all categories of parkers. Physical concerns such as good lighting, clean and maintained structures as well as security patrols are important to parking patrons. The City has brought lighting up to more recent standards in an effort to improve security and as an energy saving action. The parking facilities are regularly cleaned, swept and power washed. Security regularly patrols the garages as a contracted service as well as

having Parking Control Officers pass through the garages, surface lots and on-street parking.

d. Ease of Use. Ingress and egress to parking facilities should be efficient and effective. Information, signing and directions related to parking are critical to the successful use of parking facilities. The City has and continues to improve signing and marketing information for the parking public. Examples of this work include the Easy Park brochure with Downtown Eugene Inc., new Eugene Library brochure and new information signs at the parking garages.

These factors must be considered along with parking demand when evaluating development and construction of new parking supplies.

TRANSPORTATION DEMAND MANAGEMENT PROGRAM

Alternative transportation modes will likely never be able to totally replace the automobile. However, provision of bikeways, safe and comfortable sidewalks and good transit service can offer residents options when the auto is not needed. The next step is to remind the community of these other options and entice residents to use alternatives to driving whenever possible. The metropolitan area elected officials have determined that, at this point, residents will not be required to reduce their use of cars through mandatory measures, but that softer techniques will be offered. Such techniques as offering group bus passes, written information about transportation options, and transportation fairs to businesses are offered by LTD's Commuter Solutions program. In addition, community awareness events such as People Powered Fridays and Commute Challenge are offered.

Proposed Policy

10. Promote walking, bicycling, carpooling and riding the bus through employer based programs.

Proposed Implementation Strategies

10.1 Continue to support the regional Commuter Solutions program.

10.2 Continue city-sponsored promotions to encourage transportation options to driving alone.

10.3 Explore the formation of a Transportation Management Association (TMA) for downtown businesses.

Discussion: Public agencies in the metropolitan area have worked together for several years to promote walking, bicycling, carpooling and riding the bus. Eugene, Springfield, Lane County and LTD share in the cost of providing the Commuter Solutions program, which provides support to businesses that wish to promote these transportation options. While it remains a voluntary program for the region, many businesses have found it beneficial to encourage reduced employee reliance on the automobile. Group bus pass programs, in which a businesses provides each employee with an annual bus pass and pays a reduced price, have been a popular strategy. Forty businesses are now participating in the group bus pass program.

The City's transportation staff offers programs such as "People Powered Fridays" and "Commute Challenge" to encourage the public to consider alternatives to driving alone for some trips. People Powered Fridays are designed to encourage people to walk or bicycle one day a week during the sunny summer months. Commute Challenge offers businesses a chance to compete to see who has the greatest percentage of employees using alternatives to driving alone. These forms of promotion educate the public about the personal benefits of various commute styles while the community benefits from a

reduction in wear on roads and also in air quality that is within the Clear Air Act standards.

A Transportation Management Association provides an avenue for the private sector and public sector to join voluntarily to address transportation issues or offer incentives to employees to use alternatives to driving alone. The association can provide services to employees that would not be financially feasible to a single employer, such as joint shuttle or vanpool funding, safety seminars, or extending Guaranteed Ride Home services which provide assistance for transit users or carpoolers to get home if they have to work late or have a personal or family emergency during the workday.

UNIVERSITY OF OREGON CAMPUS AREA

The Long Range Campus Development Plan contains an assembly of policy statements intended to provide guidance to development of the University of Oregon campus. The transportation policies in the document regard the central campus area primarily as a pedestrian and bicycle zone and discourage unnecessary automobile traffic. The Plan supports the enhancement of pedestrian, bicycle, and transit facilities and the location of parking facilities on the campus margin.

Proposed Policy

11. *Support the transportation policies contained in the 1991 University of Oregon Long-Range Campus Development Plan.*

Discussion: The policies in the Long Range Campus Development Plan are congruent with the objectives of the CATS update and are therefore supported. Since this CATS update focuses on the area of greater downtown Eugene west of the University of Oregon campus boundaries, no specific implementation strategies have been developed in support of this policy.

The University of Oregon is currently engaged in the preparation of a master plan for the east campus area. That planning process could result in development proposals that have an affect on the existing transportation network or parking supplies in the area. Such changes could trigger the need for future updates to CATS.

PROPOSED IMPLEMENTATION SCHEDULE FOR 2003 CATS UPDATE STRATEGIES AND PROJECTS

Similar to the 1993 Central Area Transportation Study, this update of CATS contains a number of recommended strategies and projects to implement the CATS policies. Some of the strategies represent ongoing practices or programs to be used in the City's normal processes of planning, design, construction and operation of the transportation system. Many of the other proposals in this CATS update represent specific projects that will require a focused effort and allocation of resources to accomplish—primarily, staff time and funding for materials and labor. Since these resources are limited, the projects will need to be phased in over a period of several years.

Anticipating adoption of this CATS update by the end of 2003, and since the update is intended to cover a short-term horizon out to about 2007, the city staff team has developed the following proposals for scheduling the various projects over a period of four to five years.

Some Basic Funding Considerations

Implementing the proposed strategies and projects in the CATS update requires the following kinds of resources:

- Initial project planning, design, and public involvement. For example, laying out the details of street changes or parking changes, and providing opportunities for feedback from affected businesses or residents. Most of the preliminary work of this type would be done by city staff without the need for major outside consultant help. However, fitting this work within existing work programs and budgets will require phasing the work over a period of several years.

- Operational changes to the street system. For example, modifying traffic signals, signs, pavement markings, parking meters, etc. Again, most of this work could be done by city staff, but would need to be phased over a span of several years due to other commitments for staff time, equipment, etc.

- Construction of new improvements or major modifications. For example, several blocks of new sidewalks along Franklin Boulevard, or major new hardware for traffic signal modifications. These kinds of projects will be evaluated on a case-by-case basis to determine the best mix of city crew work and outside contracting. Typically, small to medium projects are done with a blend of the two kinds of resources. Either way, these larger improvements usually require funding as capital improvements—either with "program" funding from the city's capital budget, such as funds allocated for traffic improvements or sidewalk ramps, or with specific one-time project funds allocated for that purpose. Again, the availability of these kinds of funds and the degree of competition by other projects, helps determine how long it will take to accomplish each project.

The following proposals for project timing assume that the majority of the work would be done by city staff, with participation by private contractors as appropriate for each project. The work would be done within existing operating budgets, along with moderate amounts of funding from

previously-approved capital project funding for "generic" programs such as traffic operational improvements, traffic signal upgrades, and sidewalk ramps. Each implementation strategy in the CATS update is briefly reviewed and a calendar year is recommended as a target date for each specific project.

Policy 1: Promote the development of a transportation system within the downtown area that supports the goals of the Downtown Plan, enhances the livability of downtown, and provides for the safe and efficient movement of motor vehicles, pedestrians, bicycles, and transit vehicles.

Strategy 1.1—one-way to two-way conversions:

- **Willamette Street, 13th Avenue to 20th Avenue.** Discussion has occurred over several decades about changing Willamette Street back to two-way operation. The analysis indicates this project would be feasible and desirable in terms of improved downtown access and circulation, and the required traffic control system changes are relatively minor. Staff recommends implementation in calendar year 2004.

- **10th Avenue, Olive Street to High Street.** Portions of 10th Avenue have been changed to two-way operation in recent months. The BRT pilot corridor project will include converting most of 10th Avenue to two-way for all vehicles, and the remainder for buses only. Subject to agreement by Lane Transit District, city staff recommend implementation in 2004.

- **Lawrence Street, 6th Avenue to 13th Avenue.** This is a primarily residential street with only one traffic signal, which makes it very inexpensive to convert to two-way operation. Therefore city staff recommend implementation in 2004.

- **Charnelton Street and Lincoln Street, 5th Avenue to 13th Avenue.** Portions of these two streets have already been converted to two-way operation. Several traffic signals will require modification in order to convert the remaining segments of both these streets to two-way traffic. Given the resources likely to be required for Willamette Street, 10th Avenue, and Lawrence Street, city staff recommends implementation of Charnelton Street and Lincoln Street to two-way operation in 2005.

- **8th Avenue, Jefferson Street to High Street.** Operation of the eastern portion of this project (from Oak Street to High Street) will need further study in connection with the ongoing Federal Courthouse transportation improvements. As detailed design work proceeds on that project, options for improving flow on 8th Avenue west of High Street will be explored. Although it would be feasible to convert several blocks of 8th Avenue to two-way operation at this time, this is not recommended since it could lead to confusion and may only produce slight benefits in terms of access and circulation. Therefore, the staff recommendation is to defer implementation of 8th Avenue two-way conversion until after the Federal Courthouse transportation improvements have been completed.

Strategy 1.2—Courthouse District street system changes:
Eugene's Capital Improvement Program for 2004-2009 indicates the following phasing of this project:

- Planning, environmental and design work: 2004.
- Construction of first phase improvements: 2005.
- Construction of second phase improvements: 2007 and 2008.

Strategy 1.3—Entrance Beautification Study implementation:
This strategy will be carried out as design and implementation occur on the Federal Courthouse transportation project, Bus Rapid Transit, and other major transportation improvements in the greater downtown area.

Strategy 1.4—Oak Street north of 5th Avenue:
The timing of this project will be based on the design, funding and implementation sequence for future elements of the long-range plan envisioned for the Eugene Depot and adjacent area.

Policy 2: Maintain or improve the operation of the street system for pedestrians, bicycles, transit and automobiles. Balance the need for bicycle lanes on downtown streets with the need for on-street parking and transit facilities.

Strategy 2.1—enhancements for pedestrians, bikes, transit as part of overall street improvements:
This strategy will be carried out as opportunities occur during implementation of other projects, such as the two-way street conversions listed earlier.

Strategy 2.2—access management:
Implementation of this strategy requires the development and adoption of a city-wide administrative policy on access management. Staff recommends development, public review, and adoption of an access management policy in calendar year 2004.

Policy 3: Use Transportation Systems Development Charges (SDC) to help compensate for the effect of growth on the need for alternative transportation systems.

No specific implementation strategies are suggested in this CATS update to implement this policy. Recent actions by the City Council (in late 2002 and early 2003) have implemented changes to the citt's SDC methodology and Land Use Code, in a way that supports this policy. Future opportunities will be evaluated as they arise.

Policy 4: Improve the pedestrian system in the downtown area to encourage walking as a primary means of transportation within downtown.

Strategy 4.1—new sidewalks to address gaps:
The specific projects needed to fulfill this strategy are completion of sidewalks in several segments along Franklin Boulevard, and a connecting piece to Kincaid Street. A moderate

amount of capital funds could be added to existing project funds to complete this project in the near future. Therefore, staff recommends construction of these sidewalk segments in 2004.

Strategy 4.2—connecting downtown to Skinner Butte:
As discussed above for Strategy 1.4, Oak Street extension north of 5th Avenue, the timing of this project will be based on the design, funding and implementation sequence for future elements of the long-range plan envisioned for the Eugene Depot and adjacent area.

Strategy 4.3—evaluating and making improvements at locations with dual turn lane conflicts:
The consultant's technical report for this CATS update provides useful background information for city staff to conduct additional analysis of specific intersections where dual right-turn and left-turn lanes contribute to conflicts with pedestrian movements. Based on staff resources and inter-relationships with other proposed projects, staff recommends the following timing of follow-up work on dual turn conflicts:

- 2004: Evaluate and implement feasible improvements to intersections at 11th Avenue and 13th Avenue.
- 2005 and 2006: Evaluate and implement feasible improvements to intersections at 6th, 7th and 8th avenues.
- 2007: Evaluate and implement feasible improvements to intersections on Broadway.

Strategy 4.4—Evaluate pedestrian areas with geometry and volume conflicts:
Several of the specific problem areas listed should be studied in conjunction with other projects:

- 10th Avenue and Willamette Street: staff recommends evaluating and implementing feasible improvements in conjunction with the Bus Rapid Transit pilot corridor project, in 2005.
- 12th Avenue at Willamette Street: because the conversion of Willamette Street to two-way operation from 13th Avenue to 20th Avenue may result in come changes in traffic volumes and travel patterns on Willamette Street north of 13th Avenue, staff recommends evaluating and making feasible improvements to the 12th Avenue bicycle-pedestrian crossing of Willamette Street in 2004.
- 8th Avenue and Mill Street, and Broadway between Mill Street and Hilyard Street: staff recommends evaluating and making feasible improvements in 2006 or later, in conjunction with the Federal Courthouse transportation improvement project.

The following locations are not closely related to other projects:

- Oak Street at Overpark entrances/exits: staff recommends evaluating and making feasible improvements in 2005.
- 11th Avenue west of Willamette Street: staff recommends evaluating and making feasible improvements in 2005.
- 12th Avenue and Patterson Street area: staff recommends evaluating and making feasible improvements in 2006, in consultation with Peace Health staff regarding any likely changes to traffic volumes or patterns in this area.

Strategy 4.5—amendment to Design Standards for placement of signal, lighting and utility hardware:
This effort will involve compiling the "best practices" from recent street design projects in Eugene (such as the Broadway reopening) as well as other cities, and developing a set of standards and guidelines to add to the city's existing adopted standards. Staff recommends developing the material and adopting standards in 2005.

Strategy 4.6—use of creative approaches in Design Standards:
This strategy will be implemented through ongoing work in designing and implementing downtown Great Streets, as well as other street-related improvements within the CATS area.

Policy 5: Encourage and promote the creation of "great streets" within the downtown area that stimulate pedestrian activity while allowing for bicycles and slow-moving automobile traffic.

Strategy 5.1—Great Streets:
Implementation of additional sections of downtown Great Streets will be related in some cases to other ongoing projects, notably the Federal Courthouse district transportation improvements. Staff recommends the following sequence for implementing this strategy:

- Broadway between Oak Street and Hilyard Street, and 8th Avenue between the Park Blocks and the Willamette River: design work in 2004 and 2005, and implementation in 2005 through 2007.

- Willamette Street between 5th Avenue and 13th Avenue, and 5th Avenue between Willamette Street and High Street: add to staff work programs as feasible, in 2006 and later.

Strategy 5.2—Great Streets specific implementation details:
This strategy will be implemented through ongoing work in designing and implementing downtown Great Streets, as outlined in Strategy 5.1.

Policy 6: Improve the safety and efficiency of existing bikeways in the downtown area. Improve bicycle circulation within the downtown area and improve access to existing and planned routes extending outside of the downtown area.

Strategy 6.1—changes to bicycle facilities in the CATS area as street changes are implemented
- This strategy comtemplates future changes to the street network in the CATS area—for example, changing some streets from one-way to two-way operation, beyond those already planned, as well as other street system improvements. As these street projects occur it will be important to integrate improvements for bicyclists into the overall design.

Strategy 6.2 - use of design techniques to encourage and support bicycle traffic:
- This strategy will be employed when opportunities arise to incorporate bicycle-friendly design features into downtown street projects–for example, when designing future Great

Streets such as 8th Avenue, and when examining opportunities for improving bicycle access to the new Eugene Library at 10th Avenue and Olive Street.

Strategy 6.3 - adding long-term bicycle parking downtown:

- This strategy will be implemented in conjunction with changes in downtown development and redevelopment - for example, as shifts or increases occur in major employment locations within downtown that would change the demand for long-term bike parking nearby.

Strategy 6.4 - evaluate bicycle lane placement on Pearl Street and High Street:

- This strategy will involve staff analysis of the interaction among lanes for vehicle movement, bicycles, and parking along the sections of Pearl Street and High Street from 5th Avenue to 19th Avenue. The study will need to take into account the final design of the 8th Avenue and Mill Street intersection, because of the proximity of the 8th Avenue and High Street intersection. It will also need to consider the likely routing of future downtown shuttle and BRT routes. For these reasons staff recommends this evaluation be done in 2005.

Strategy 6.5 - corrective measures to specific conflicts at the following locations:

- Willamette Street and Olive Street between 8th Avenue and 10th Avenue, install stencil or other reminder to motorists to share roadway with cyclists - recommend implementing in 2004, at completion of Willamette Street two-way conversion project.
- 11th Avenue and Oak Street, install blue background to bike lane on 11th Avenue - recommend implementation in 2005 at completion of BRT project on 11th Avenue.
- 12th Avenue bike/pedestrian crossing at Willamette Street, enhancements to reduce conflicts at crossing - recommend implementation in 2004 at completion of Willamette Street two-way conversion project.
- Pearl Street at 19th Avenue, install warning signs - recommend implementation in 2004.
- High Street at 7th Avenue, blue background for “bike box” - recommend implementation in 2004.
- Oak Street, 8th Avenue to 10th Avenue - recommend implementing in conjunction with 10th Avenue bike lanes and BRT project in 2004.
- 18th Avenue at Hilyard Street, add right turn lane–recommend implementation in 2006 or later.

Strategy 6.6 - bike lanes on specific segments of streets:

- Willamette Street, from 13th Avenue to 20th Avenue - recommend implementation in 2004 in conjunction with the project to convert this portion of Willamette Street to 2-way operation.
- Lincoln Street, from 11th Avenue to 13th Avenue - recommend implementation in 2005 or later when bike lanes are implemented on 11th Avenue and 13th Avenue, west of Lincoln Street.
- 10th Avenue, from Olive Street to High Street - recommend implementation in 2004 in conjunction with downtown pilot BRT project.

Policy 7: Support a frequent transit-based shuttle service in the greater downtown area to link major employment and activity centers and to provide an attractive, energy-efficient, low or no cost, transportation alternative for those who live, work or shop within the greater downtown area.

Strategy 7.1–Maintain or enhance the frequency of the downtown shuttle service:

- As an active partner in downtown Eugene transportation, Lane Transit District will continue to monitor and adjust the operations of the shuttle service as Bus Rapid Transit comes on line and other changes occur in LTD's overall mix of service to and within the greater downtown area.

Strategy 7.2–Evaluate feasibility of a transit connection in the Willamette Street corridor between 6th Avenue and 7th Avenue:

- Staff recommends this study be undertaken in 2007, or sooner if Great Street design for the portion of Willamette Street north of 8th Avenue moves ahead sooner than this.

Strategy 7.3—Develop transit routing options for Federal Courthouse district:

- This planning work should be done in conjunction with planning and design work for the courthouse district transportation improvements; therefore staff recommends this be done in 2004.

Strategy 7.4–Evaluate potential of High Street, Pearl Street, Washington Street, Jefferson Street and 10th Avenue (west of Willamette Street) for BRT routes:

- This CATS update has reached preliminary conclusions and recommendations for converting some downtown one-way streets to two-way operation. The only such street in this list of potential BRT routes is a portion of 10th Avenue. If the conversion of 10th Avenue is approved with final adoption of the CATS update, the project will be done in consultation with LTD.

- The other streets in this list of potential BRT routes are not proposed for conversion to two-way traffic at this time. Any additional study of possible changes to traffic flow on these streets will be done in consultation with LTD.

Policy 8: Support intensive development in the downtown area by balancing new parking supply with specific area demands and ensure an adequate supply of parking is available downtown to meet the needs of residents, workers and customers of downtown facilities.

Strategy 8.1—Reduce inventory of surface lots by encouraging redevelopment:
This strategy will be implemented on an ongoing basis as the City participates in opportunities for downtown redevelopment, as discussed in more detail in the current update to the Downtown Plan.

Strategies 8.2 and 8.4—Use diagonal parking where feasible, and preserve existing on-street parking to the extent possible:
These two strategies will be implemented on a case-by-case basis, as various street improvement projects are designed and built, and as the competing needs of vehicle movement, parking, bicycles and transit are evaluated for each situation.

Strategies 8.3 and 8.5—Use supply/demand studies and City financing tools to increase the supply of off-street parking structures:
These strategies will be implemented on an ongoing basis as the City participates in opportunities for downtown redevelopment, as discussed in more detail in the current update to the Downtown Plan.

Policy 9: Make parking downtown convenient, affordable, safe and easy to use.

Strategies 9.1 and 9.2—Implement a marketing/information campaign to make downtown parking more user-friendly, and encourage greater utilization of structured parking:
This strategy will be implemented on an ongoing basis in close coordination with Downtown Eugene Inc. and other major downtown user and advocacy groups.

Strategy 9.3—Review parking rates annually:
This strategy represents a continuation of current City practice, and will carried out on an ongoing basis.

Policy 10: Promote walking, bicycling, carpooling and riding the bus through employer based programs.

Strategies 10.1 and 10.2—Continue to support the regional Commuter Solutions Program, and city-sponsored promotions to encourage options to driving alone:
These strategies represent a continuation of current City practice, and will carried out on an ongoing basis.

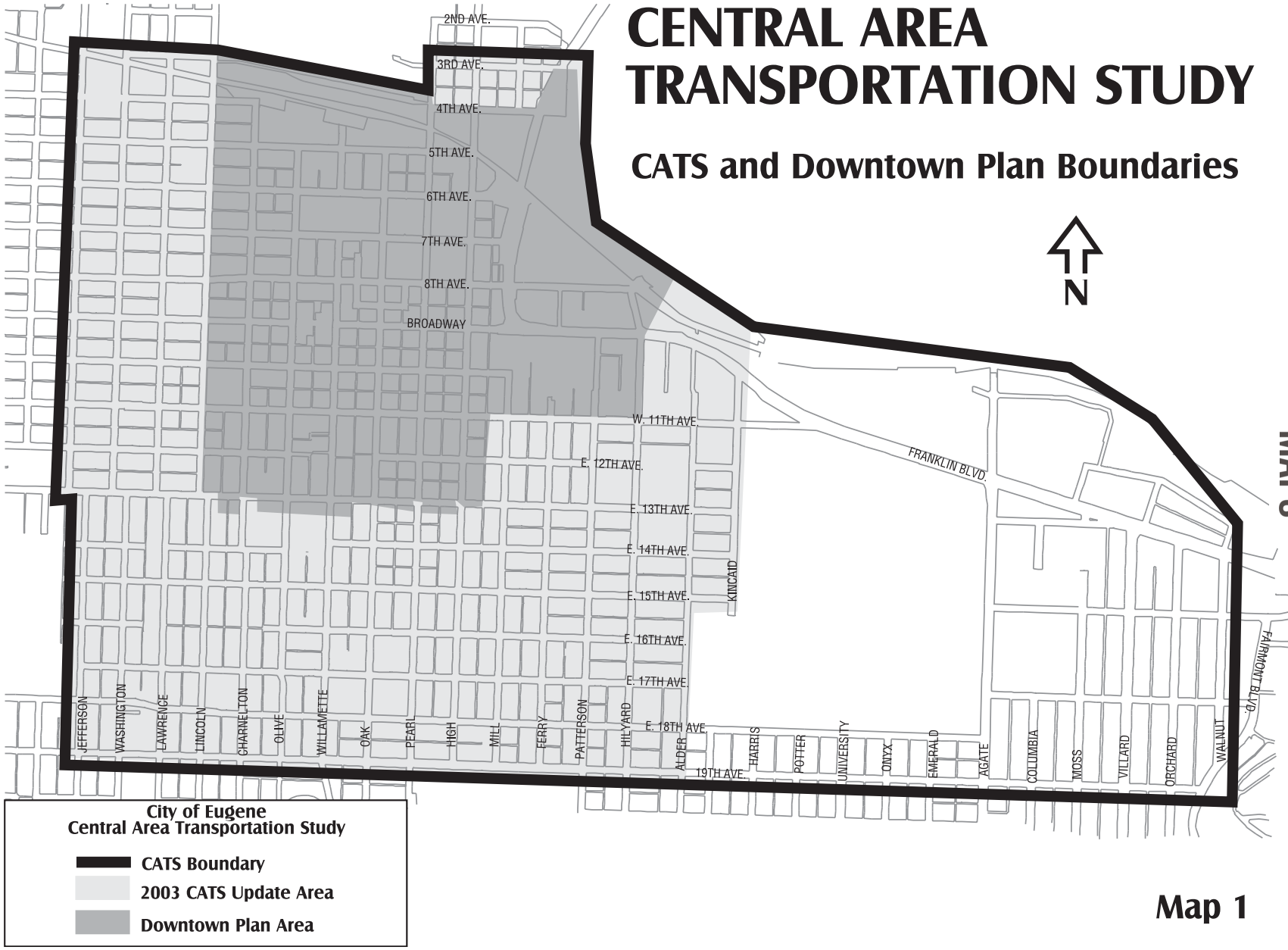
Strategy 10.3—Explore formation of a Transportation Management Association (TMA) for downtown businesses:
This strategy will require devoting significant City staff resources to work closely with DEI and major downtown employers, along with LTD and other partners. Staff recommends that this effort be deferred until other high priority CATS strategies and projects can be addressed, and that development of a downtown TMA be pursued beginning in 2006.

Policy 11: Support the transportation policies contained in the 1991 University of Oregon Long Range Campus Development Plan.

Since this CATS update focuses on the geographic area west of the University of Oregon campus boundaries, there are no specific implementation strategies for this policy suggested at this time.

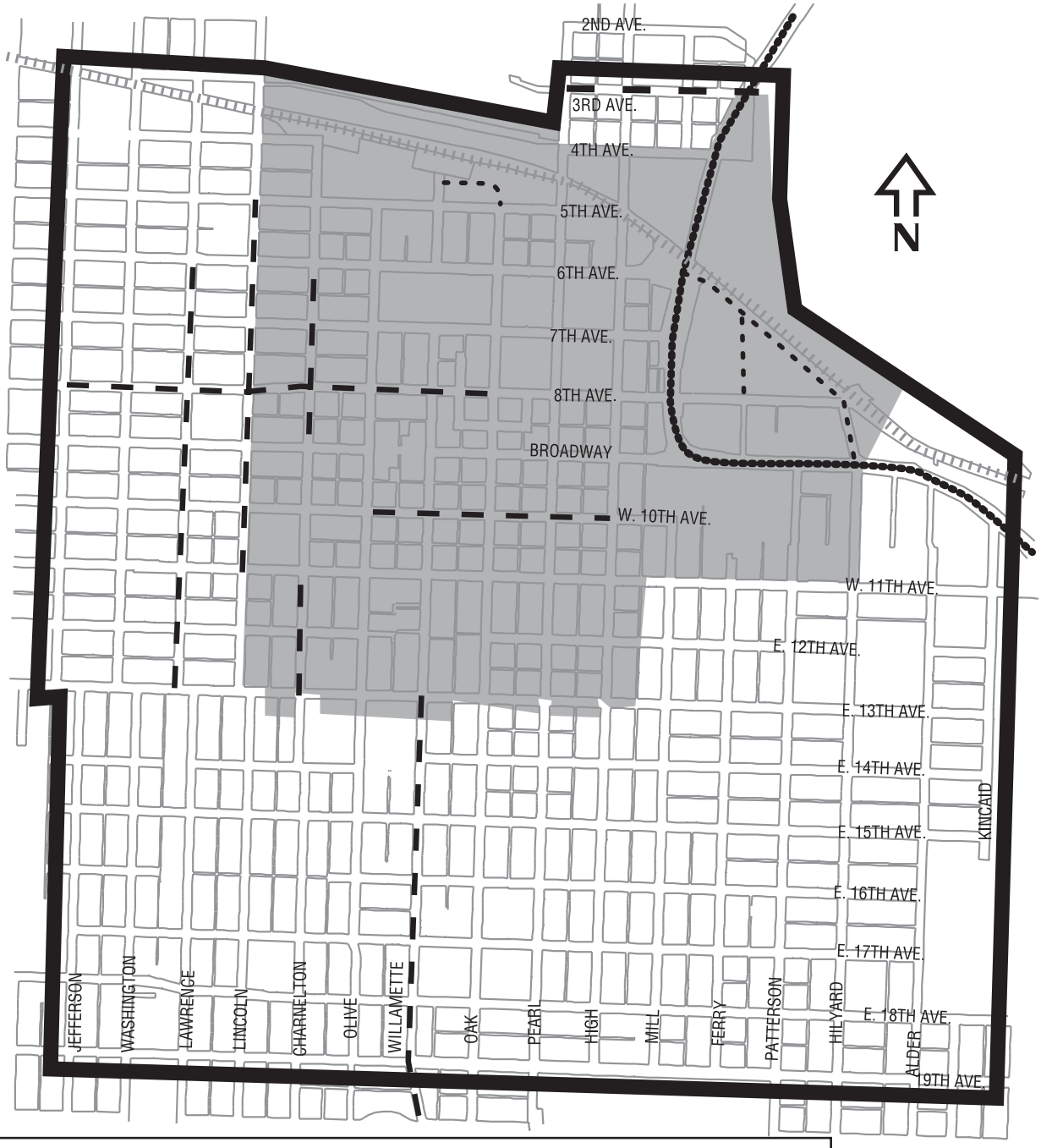
CENTRAL AREA TRANSPORTATION STUDY

CATS and Downtown Plan Boundaries



Map 1

Street System Proposed Improvements

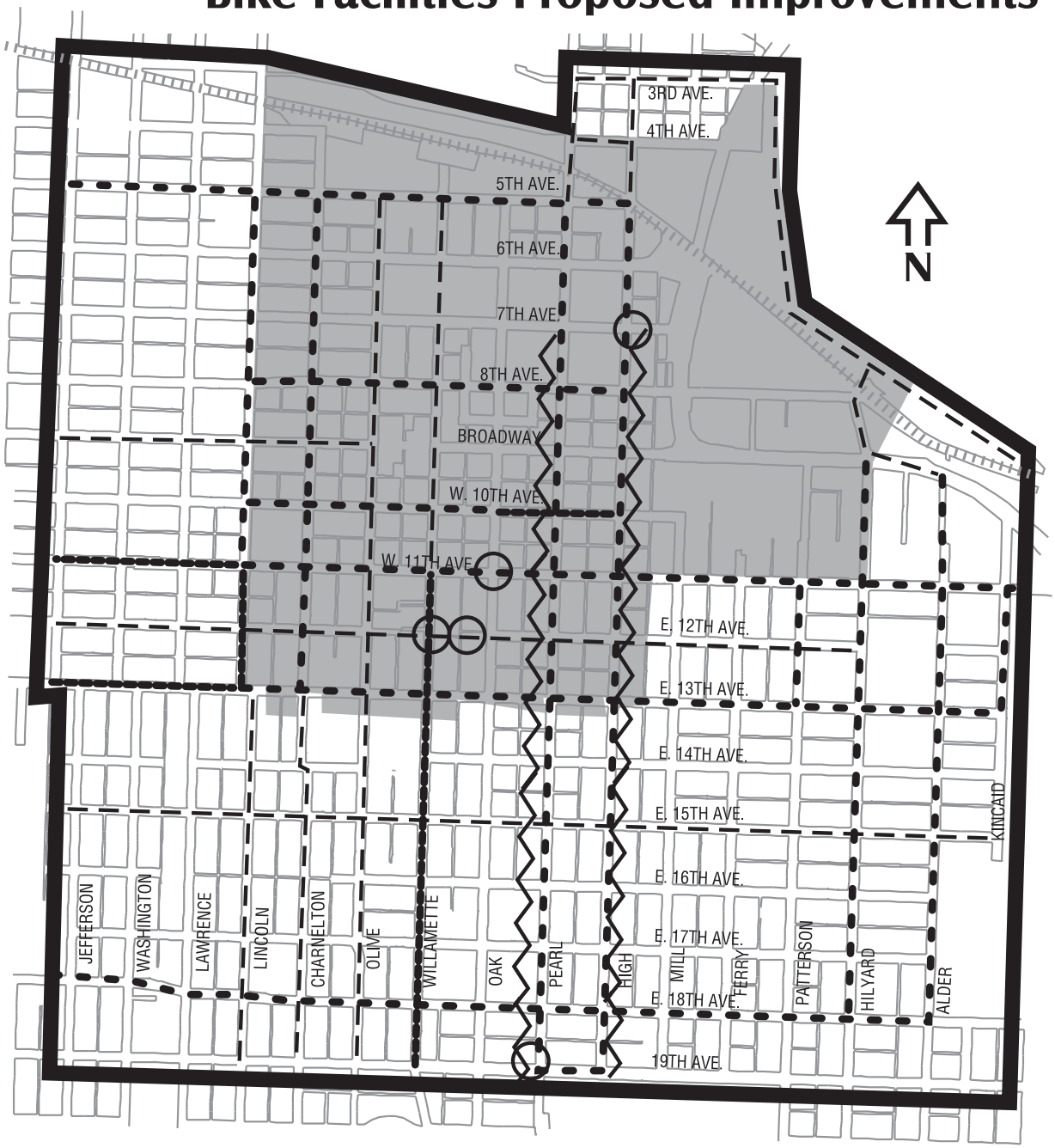


Map 2

Pedestrian Facilities Proposed Improvements

Map 3

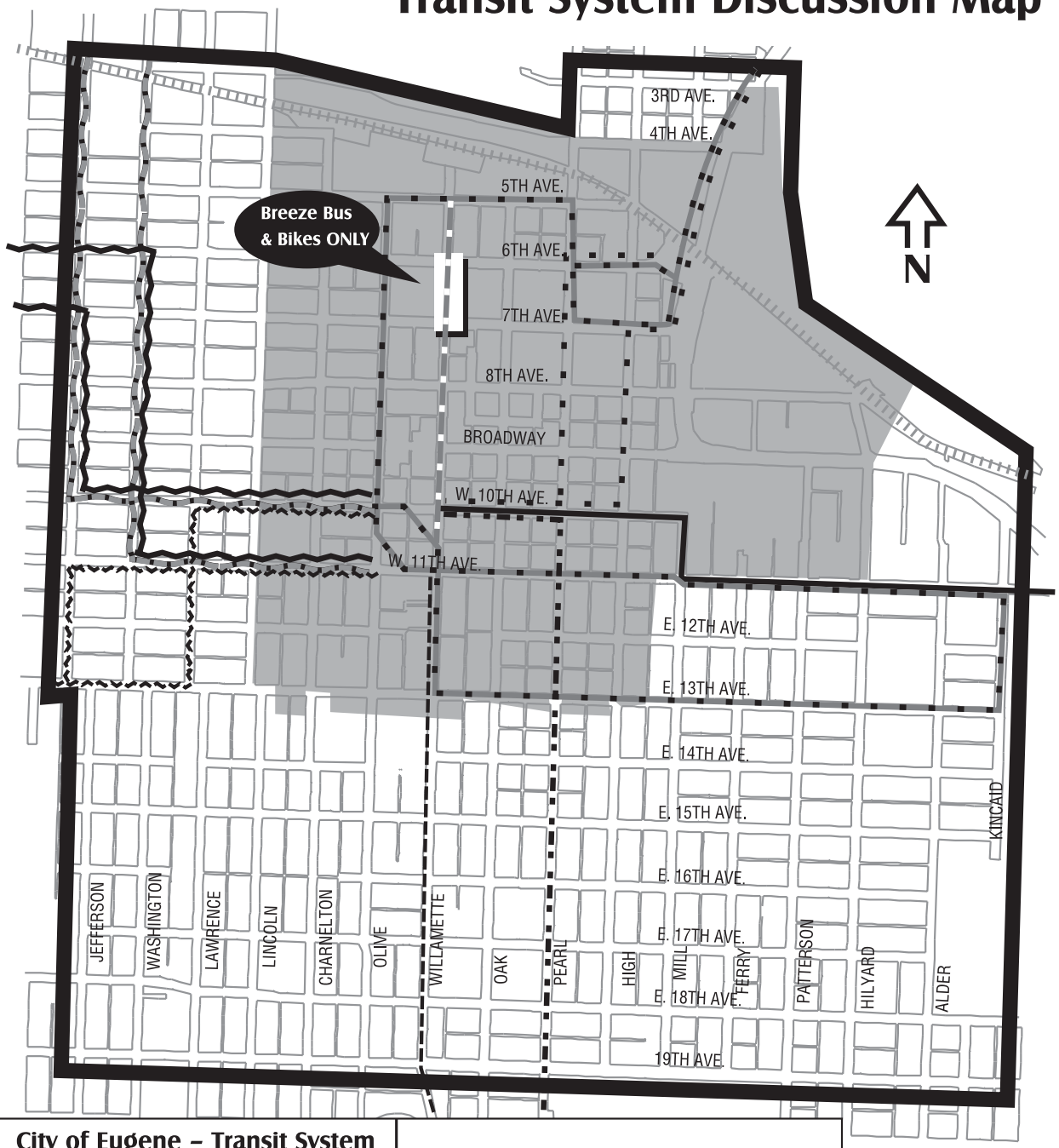
Bike Facilities Proposed Improvements



City of Eugene – Bike Facilities Proposed Improvements	
2003 CATS Update Area	Bike Route or Path
Downtown Plan Area	Bike Lane
	Proposed Bike Lane
	Switch to Right Side
	Intersection Conflict

Map 4

Transit System Discussion Map



City of Eugene – Transit System Discussion Map

- 2003 CATS Update Area
- Downtown Plan Area

BREEZE SHUTTLE

- BRT Phase 1 final
- Breeze Route: 1
- Breeze-Willamette St. Option

POTENTIAL FUTURE BRT ROUTES

- Coburg BRT
- Pearl-Amazon-LCC BRT
- River Road BRT
- West Eugene BRT
- Highway 99 BRT
- Willamette BRT

Map 5

APPENDIX B

EXECUTIVE SUMMARY: DOWNTOWN EUGENE CIRCULATION AND SIGNAL COORDINATION TRANSPORTATION STUDY

DKS Associates of Portland was retained to conduct a study to evaluate the traffic impacts of alternative circulation options within the central downtown Eugene area. The study area bounded by Jefferson Street to the west 4th Avenue to the north, Alder Street to the east and 19th Avenue to the south contains eleven one-way streets. 24-hour roadway counts collected by the City of Eugene indicated that the PM peak period (typically between 4 p.m. and 6 p.m.) has the highest number of vehicles over the course of the day on the majority of the study area roadways.

Traffic operational analysis was conducted on 74 signalized study area intersections and results of this analysis indicated that several of the intersections were nearly saturated (displaying a high volume-to-capacity (V/C) ratio (0.90 to 1.00) but little delay (Level of Service A to C). Volume to capacity ratio is a measure of the number of vehicles an intersection can accommodate compared to the actual amount of vehicles that are using the intersection. Delay Level of Service (LOS) is based on the average delay experienced by all vehicles on all approaches and will not be illustrative of congested lanes on one approach.

Typically the measure of Level of Service (LOS) and V/C at an intersection are closely related. For example, when an intersection nears capacity (V/C of 0.95 or greater) the amount of delay at the intersection also increases and the resultant LOS approaches E and F. However, for a one-way grid system in an urban downtown setting where the traffic signals typically have only two phases and a short cycle length, the average vehicle delay can be moderate (LOS C) while the V/C can be high (0.90 to 1.00). Many streets in a one-way system typically have multiple lanes to service the traffic demand, which reduces delay, particularly with signal progression.

Crash records from the City of Eugene were compiled to prepare a summary showing the location and types of crashes at study area intersections. Crash diagrams were prepared to determine trends and characteristics of the crashes at four study area intersections that displayed a crash rate greater than 1.0. Intersection crash rates are determined by the number of crashes per million entering vehicles and a rate of 1.0 is considered the threshold at which further investigation should be considered. The intersections meeting this rate criterion were 7th Avenue at Jefferson Street/I-105 off-ramp, 7th Avenue at Washington Street/I-105 on-ramp, 8th Avenue at Washington Street, and 8th Avenue at High Street.

<u>Alternatives</u>

A number of alternatives were developed to be evaluated in the 2007 horizon year, including:

No Build base network
The no-build network assumes today's system with some planned improvements, including the Oak Street extension to the Eugene Depot, street changes to accommodate LTD's Phase I Bus Rapid Transit (BRT) project, and the Federal Courthouse circulation east of Mill Street and north of Broadway.

Alternative A
This alternative projects converting Lawrence Street, Lincoln Street and Charnelton Street to two-way operation from 5th Avenue or 6th Avenue to 13th Avenue (5th Avenue- 13th Avenue on Lincoln, 6th Avenue- 13th Avenue on Lawrence Street and Charnelton Street), plus converting 8th Avenue to two-way operation between Jefferson Street and Pearl Street, and converting 10th Avenue to two-way operation between Lincoln Street and High Street.

Alternative A1
Assumes the same conversions as in Alternative A with the addition of converting Willamette Street from one-way to two-way operation from 13th Avenue to 20th Avenue.

Alternative B
Assumes the same conversions as in Alternative A1 with the addition of converting Oak Street to two-way operation between 6th Avenue and 20th Avenue.

Alternative C
Assumes the same conversions as in Alternative A1 with the addition of converting Pearl Street to two-way operation between 6th Avenue and 19th Avenue.

Alternative D
Assumes the same conversions as in Alternative A1 with the addition of converting High Street to two-way operation between 6th Avenue and 19th Avenue.

Potential Recommendations

Although each alternative have some impacts associated with the conversions, most impacts could be mitigated through a variety of traffic signal timing modifications, in terms of cycle length and optimization, lane use re-designation, or movement restriction/prohibition on selected approaches. Based upon the evaluation of alternatives, DKS has provided the following potential recommendation for the study area:

The roadway network can accommodate future travel demand under the no-build alternative and Alternative A with minor signal timing modifications. All other alternatives could be implemented, but would require turning restriction(s) at Willamette Street and 18th Avenue. In addition, Alternatives B, C and D would require various capacity related modifications that would potentially impact parking.

The circulation alternative that has the least impact to capacity of the transportation network would be Alternative A. While Alternative A1 can be implemented and is projected to operate below a V/C ratio of 1.0 in the future, the intersection of Willamette Street and 18th Avenue would require turning restrictions and may require capacity improvements to operate at acceptable traffic operations beyond 2007.

APPENDIX C

COST ESTIMATES FOR ONE-WAY TO TWO-WAY STREET CONVERSIONS *

The conversion of street segments from one-way to two-way operation requires the re-striping and re-signing of the street and approaches to the street. At signalized intersections, much of the apparatus can be re-used, but often the signal modifications are extensive. A cursory review of those items for Alternative A and A1 indicate the following:

Lawrence Street

@ 6th Avenue (ODOT) #128
Replace Pedestrian Pedestal in northeast quadrant with an MP-1, a 20 foot mast arm with two 12-12-12 phase 8 signal heads (one of which could be pole-mounted) and an additional channel A fire preemption detection unit. The existing 3@ conduit from the controller to the ped. pedestal should be adequate, but the 1-1/4@ conduit from JB-2 to the PP is probably too small and should be replaced with 2" to carry additional wiring.

Rough Costs	
One new foundation for MP-1	$5,000
Salvaged MP-1 and 20= MA	$0
Salvaged Traffic Signal Heads	$0
Conduit and Wiring, installed	$1,000
Opticom discriminator	$500
Subtotal	$6,500
Engineering & Contingency (25%)	$1,625
Signal Total (approximate)	**$8,125**

Re-signing re-striping and re-designating parking on Lawrence Street from 6th Avenue to Broadway and 11th Avenue to 13th Avenue(Broadway to 11th Avenue having already been converted for the Eugene Library opening) would be additional costs for the one-way to two-way conversion and without a more detailed site survey, a quick approximation would be that such work would be less than $7,000.

Lawrence Street Summary	
@ 6th Avenue (ODOT) #128	**$8,125**
Signing, Striping & Parking (approximate)	**$7,000**
Grand Total for Lawrence Street (approximate)	**$15,000**

Lincoln Street

@ 6th Avenue (ODOT) #7

Replace Pole #4 in southwest quadrant with a DMP-NS combination Pole with 30= arm and 20= arm, each with 12-12-12 traffic signal heads (two phase 4 and one phase 6) and fire preemption detector units. Replace 35= mast arm on Pole # 2 in northeast quadrant with a 25= mast arm. Remove northbound AL-5T, install AL-4R on new southbound mast arm and re-install the existing AL-4Lon the northbound mast arm.

Rough Costs	
One new foundation for DMP	$6,000
New DMP/NS (approximate)	$12,000
New 30= MA (approximate)	$3,000
Salvaged 20= MA	$0
Salvaged 25= MA	$0
Salvaged Traffic Signal Heads	$0
Conduit and Wiring, installed	$1,000
Opticom discriminator	$500
Subtotal	$22,500
Engineering & Contingency (25%)	$5,625
Signal Total (approximate)	**$28,125**

@ 7th Avenue (ODOT) #21

Replace Pedestrian Pedestal in the southwest quadrant with an MP-1 (may be able to salvage one from the north side) with a 20= mast arm bearing two 12-12-12 phase 4 traffic signal heads and an additional fire preemption detector unit. Remove and salvage Pole # 1 in the northwest quadrant and replace Pole #2 in the northeast quadrant and replace it with a DMP-NS combination pole with new (salvaged) 20= arm and existing re-installed 35= mast arm.

Rough Costs	
Two new foundations, One DMP	$6,000
One MP-1	$5,000
New DMP/NS (approximate)	$12,000
Salvaged 20= MA (2)	$0
Salvaged Traffic Signal Heads	$0
Conduit and Wiring, installed	$1,000
Opticom discriminator	$500
Subtotal	$24,500
Engineering & Contingency (25%)	$6,125
Signal Total (approximate)	**$30,625**

@ 8th Avenue #140

A signal warrant analysis should be performed at this location to determine whether the signal is warranted prior to investing the funding to replace the strain pole and span wire installation with mast poles and arms. Both Lincoln Street and 8th Avenue in this vicinity currently carry approximately 4,000 ADT. Removal of the signal and conversion to four-way stop control simultaneous with conversion to two-way operation may be a cost-effective and efficient way to control traffic at this location.

@ 11th Avenue #53

This span wire on strain pole installation could likely be left and equipment shifted or hung on existing or upgraded messenger cables. The two phase 8 traffic signal heads need to be shifted right, along with the fire preemption detector unit and AL-4R sign. On the south span we would need two salvaged 12-12-12 phase 4 traffic signal heads, another fire preemption detector unit and AL-4R sign.

Rough Costs	
Salvaged Traffic Signal Heads	$0
Conduit and Wiring, installed	$1,000
Opticom discriminator	$500
Subtotal	$1,500
Engineering & Contingency (25%)	$375
Signal Total (approximate)	**$1,875**

Re-signing, re-striping and re-designating parking would be additional costs for the one-way to two-way conversion and without a more detailed site survey, a quick approximation of the work from 5th Avenue to 11th Avenue would be less than $8,000.

Lincoln Street Summary	
@ 6th Avenue (ODOT) #7	**$28,125**
@ 7th Avenue (ODOT) #21	**$30,625**
@ 8th Avenue #140 (requires analysis)	**$0**
@ 11th Avenue #53	**$1,875**
Signing, Striping & Parking (approximate)	**$8,000**
Grand Total for Lincoln Street (approximate)	**$69,000**

Charnelton Street

@ 6th Avenue (ODOT) #135

Replace Pedestrian Pedestal (pole # 2) in northeast quadrant with MP-1 and 25= mast arm (may be able to use salvaged) with two 12-12-12 phase 8 traffic signal heads, a fire preemption detector unit and AL-4L sign. Replace Pole #4 MP-1 with a DMP-NS pole with two 30= mast arms (one of which should be salvageable). Signal heads, sign and fire preemption detector units can also be transferred from old to new pole.

Rough Costs	
One new foundation for MP-1	$5,000
One new foundation for DMP	$6,000
New DMP/NS (approximate)	$12,000
Salvaged MP-1 and 25= MA	$0
Salvaged 30= MA	$0
Salvaged Traffic Signal Heads	$0
Conduit and Wiring, installed	$1,000
Opticom discriminator	$500
Subtotal	$24,500
Engineering & Contingency (25%)	$6,125
Signal Total (approximate)	**$30,625**

@ 7th Avenue (ODOT) #22

Add MP-1 w/25= MA in Northeast quadrant with two 12-12-12 phase 8 traffic signal heads, a fire preemption detector unit and AL-4R sign.

Rough Costs	
One new foundation for MP-1	$5,000
Salvaged MP-1 and 25= MA	$0
Salvaged Traffic Signal Heads	$0
Conduit and Wiring, installed	$1,000
Opticom discriminator	$500
Subtotal	$6,500
Engineering & Contingency (25%)	$1,625
Signal Total (approximate)	**$8,125**

@ 8th Avenue #33

This installation may be able to accommodate the adjustments for the modification with the addition of one more strain pole and additional span wire across the north leg of the intersection. However, since 8th Avenue is also planned for conversion from one-way to two-way operation, this may be the time to remove all strain poles and span wires and replace with mast poles and arms. The first fundamental question is whether the signal is warranted, and if so what the best design would be B 2 double mast poles? Four poles with single arms, or a combination. Assuming conversion of Charnelton Street only, while minimizing throwaway with future conversion of 8th Avenue. Staff recommends installing one new MP-1 pole in the northeast quadrant with a 20= mast arm, two 12-12-12 phase 8 traffic signal heads, a fire preemption detector unit and AL-4L sign.

Rough Costs	
One new foundation for MP-1	$5,000
New MP-1 and salvaged 20= MA	$5,000
Salvaged Traffic Signal Heads	$0
Conduit and Wiring, installed	$1,000
Opticom discriminator	$500
Subtotal	$11,500
Engineering & Contingency (25%)	$2,875
Signal Total (approximate)	**$14,375**

@ 11th Avenue #54

This installation could also be converted inexpensively if the span wire installation were retained by adding a fourth strain pole and span across the north side of the intersection. Assuming this approach, there would be one SP-1 installed in the northeast quadrant with messenger cable and two 12-12-12 heads, a fire preemption detector unit and AL-4L sign on the north span.

Rough Costs	
One new foundation for SP-1	$5,000
Salvaged SP-1	$0
Salvaged Traffic Signal Heads	$0
New messenger cable, wiring	$3,000
Opticom discriminator	$500
Subtotal	$8,500
Engineering & Contingency (25%)	$2,125
Signal Total (approximate)	**$10,625**

Re-signing, re-striping and re-designating parking would be additional costs for the one-way to two-way conversion and without a more detailed site survey, a quick approximation of the work from 6th Avenue to Broadway and from 11th Avenue to 13th Avenue would be less than $7,000.

Charnelton Street Summary	
@ 6th Avenue (ODOT) #135	**$30,625**
@ 7th Avenue (ODOT) #22	**$8,125**
@ 8th Avenue #33	**$14,375**
@ 11th Avenue #54	**$10,625**
Signing, Striping & Parking (approximate)	**$7,000**
Grand Total for Charnelton Street (approximate)	$71,000

Willamette Street
@ 13th Avenue
Another intersection that could be inexpensively adjusted by adding two 12-12-12 traffic signal heads to existing span wire across north side and fire preemption detection unit and AL-4R sign.

Rough Costs	
Salvaged Traffic Signal Heads	$0
Conduit and Wiring, installed	$1,000
Opticom discriminator	$500
Subtotal	$1,500
Engineering & Contingency (25%)	$375
Signal Total (approximate)	**$1,875**

@ 18th Avenue
This intersection will require more extensive signing and pavement markings than others, with movement restrictions for operational and capacity purposes. If poles are capable of supporting one more span, a low-cost improvement would be to add a new span between Pole #1 in the northwest quadrant to the Pole #2 with two 12-12-12 traffic signal heads and fire preemption detection unit, AL-4R sign and Left turn prohibition signs for northbound and eastbound movements.

Rough Costs	
Salvaged Traffic Signal Heads	$0
Install span wire across north	$2,000
Conduit and Wiring, installed	$1,000
Opticom discriminator	$500
Subtotal	$3,500
Engineering & Contingency (25%)	$875
Signal Total (approximate)	**$4,375**

Re-signing, re-striping and re-designating parking would be additional costs for the one-way to two-way conversion and without a more detailed site survey, a quick approximation of the work from 13th Avenue to 18th Avenue would be less than $7,000.

Willamette Street Summary	
@ 13th Avenue	**$1,875**
@ 18th Avenue	**$4,375**
Signing, Striping & Parking (approximate)	**$7,000**
Grand Total for Willamette Street (approximate)	**$13,500**

Cost Estimate Summary	
Lawrence Street	**$15,000**
Lincoln Street	**$69,000**
Charnelton Street	**$71,000**
Willamette Street	**$13,500**
Grand Total for One-Way to Two-Way Conversions (approximate)	**$169,000**

*Note: these estimates are dependent upon availability and use of salvaged equipment that may or may not be on-hand at time of need. If new apparatus is necessary, the costs will be substantially higher (may be up to double).

All work within intersections on 6th Avenue or 7th Avenue must be approved by ODOT (the road authority on ORE 99).

APPENDIX D

LIST OF DOWNTOWN AREA ON-STREET PARKING CHANGES 1993 - 2003

When	Location	Reason	Metered Add	Metered Loss	Signed Add	Signed Loss
1993	Olive St; 5th - 8th	Lane change		12		
1993	Olive; 8th - 10th	Reopen	13			
1995	8th; Oak - Charnelton	Lane change	30			
1995	8th; Pearl - E. Park	Lane change	1			
1995	Various locations	Bike lanes; CATS '93		30		90
1996	Willamette; 8th - 10th	Reopen	12		4	
1997	Olive; 10th - 11th	LTD stop; EPD		4		
1998	10th; Olive - Oak	Lane change	9		3	
1998	15th; Jefferson - Willamette	Bike lanes				12
1998	Broadway; Charnelton - Lincoln	Redesign		6		
1998	Pearl; Broadway - 10th	LTD stop		1		
1998	Pearl; Broadway - 11th	Lane change	12			
1999	11th; Charnelton - Willamette	Lane change		2		
2000	10th; Lincoln - Charnelton	LTD stop		3		
2000	Oak; 8th - 11th	Lane change	12			
2000	South Park; West Park - Oak	Saturday Market		1		
2001	10th; Lincoln - Olive	Library/lane change		14		
2001	High St; 5th - 6th	Change to diagonal	6			
2001	Pearl; 5th - 6th & Olive; 7th - 8th	Breeze routing		4		
2002	Broadway; Oak - Charnelton	Reopen	39		1	
2003	10th; Olive - Willamette	Lane change		1		1
		Totals	**134**	**78**	**8**	**103**
		Net Change				
		-39				